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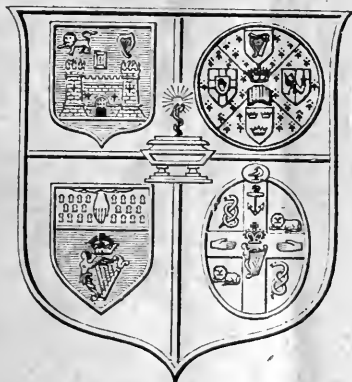
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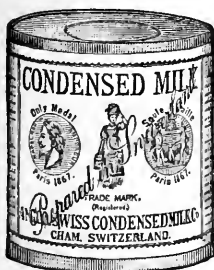
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O. R. NEWMARCH, Major-General,  
*Military Secretary.*

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ARMY MEDICAL DEPARTMENT,  
WAR OFFICE,  
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FOR  
TWELVE COMMISSIONS  
IN

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29. A Case of Chronic Peritonitis, with Intestinal and Abdominal Fistulæ — Enterorrhaphy — Recovery. By Frederick Holme Wiggin, M.D. New York: Trow. 1894. Reprint. Pp. 7.

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35. Urinary Surgery. By E. Hurry Fenwick, F.R.C.S. Eng. Bristol: John Wright & Co. 1894. Crown 8vo, Pp. 219.

36. Formulaire des Médicaments Nouveaux et des Médications Nouvelles pour 1895. Par H. Bocquillon-Limousin. Paris: J. B. Baillière et fils. 1895. 18mo. Pp. 316.

37. Saint Thomas's Hospital Reports. New Series. Vol. XXII. London: J. & A. Churchill. 1894. 8vo. Pp. xl + 614.

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46. Bulletin Trimestriel des Publications Nouvelles. De Félix Alcan, Éditeur. No. 86. Octobre, 1894. Pp. 16.

47. The Pharmaceutical Journal of Australasia. Vol. VII., No. 10. October 25, 1894. Sydney. [Three copies.]

48. Oliver Wendell Holmes. By William Osler, M.D. Baltimore: The Friedenwald Company. 1894. Reprint. Pp. 10.

49. Helps in Sickness and to Health. By Henry C. Burdett. London: The Scientific Press. 1894. 8vo. Pp. 484.

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54. The Modern and Humane Treatment of the Morphine Disease. By J. B. Mattison, M.D. 1893. Reprint. Pp. 8. New York.

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### CONTENTS.

THIRD SERIES, No. CCLXXVII.—JANUARY 1, 1895.

#### PART I.—ORIGINAL COMMUNICATIONS.

|                                                                                                                                                                                                                          | PAGE |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| ART. I.—Remarks upon some Therapeutical Traditions. By WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland, - - - - -                                                                         | 1    |
| ART. II.—Clinical Report of the Rotunda Lying-in Hospital, for Year 1892-1893. By WILLIAM J. SMYLY, M.D., Master, Rotunda Lying-in Hospital; JOHN H. GLENN, M.B.; and HASTINGS TWEEDY, L.R.C.S.I., Assistants, - - - - - | 6    |
| ART. III.—A Study of Obstinate Hiccough. By W. LANGFORD SYMES, L.R.C.P.I., L.R.C.S.I., - - - - -                                                                                                                         | 14   |
| ART. IV.—Note on Psoriasis Palmaris. By H. S. PURDON, M.D.; Physician, Belfast Skin Hospital, - - - - -                                                                                                                  | 35   |

#### PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

|                                                                                                                                                                                                                    |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1. On Preservation of Health in India. By SIR J. FAYRER, K.C.S.I., M.D., F.R.S.; President of Medical Board at the India Office, -                                                                                 | 37 |
| 2. Atlas of Clinical Medicine. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin.; Assistant-Physician to the Edinburgh Royal Infirmary, &c. Volume III., Part I., - - - - -                                    | 38 |
| 3. Précis de Clinique Thérapeutique. Par le Dr. A. F. PLICQUE, Médecin Adjoint à la Compagnie du Nord: Ancien Interne des Hôpitaux de Paris; Lauréat de la Faculté de Médecine; Lauréat des Hôpitaux, - - - - -    | 40 |
| 4. A Collection of the Published Writings of William W. Gull, Bart., M.D., F.R.C.P., Physician to Guy's Hospital. Edited and arranged by THEODORE DYKE ACLAND, M.D., Physician to St. Thomas's Hospital, - - - - - | 40 |
| 5. Index of Medicine: a Manual for the Use of Senior Students and Others. By SEYMOUR TAYLOR, M.D., M.R.C.P., Senior Assistant Physician to the West London Hospital, - - - - -                                     | 41 |

|                                                                                                                                                                                                                                                                                                                           | PAGE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 6. Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol XV. Universidad-Vzoroff, - - - - -                                                                                                                                                                       | 42   |
| 7. Cloudland: a Study on the Structure and Characters of Clouds. By REV. W. CLEMENT LEY, M.A., F.R. Met. Soc., - - -                                                                                                                                                                                                      | 42   |
| 8. The Nurseries of Cholera: its Diffusion and Extinction. An Address delivered before the Section of Public Medecine of the British Medical Association at Newcastle, August, 1893; with an Appendix of the International Cholera Convention of Paris, 1894, and on the Mecca Pilgrimage. By ERNEST HART, D.C.L., &c., - | 44   |
| 9. Deaf-Mutism. By HOLGER MYGIND, M.D. Copenhagen, - - -                                                                                                                                                                                                                                                                  | 45   |
| 10. Vade-Mecum du Practicien: Diagnostic et Traitement des Maladies Internes. Par le DR. FERNAND ROUX, Mention Honorable de l'Institut, Recompense de l'Académie (Prix Desportes); Lauréat de la Société Médico-Practique et de la Société de Médecine, -                                                                 | 46   |
| 11. Gout, and its Relations to Diseases of the Liver and Kidneys. By ROBSON ROOSE, M.D., LL.D., F.C.S.; Fellow of the Royal College of Physicians in Edinburgh, &c., - - - - -                                                                                                                                            | 46   |
| 12. Diseases of the Nose and Throat. By F. DE HAVILLAND HALL, M.D., F.R.C.P. Lond.; Physician to Out-patients, and in charge of the Throat Department at the Westminster Hospital, &c., -                                                                                                                                 | 47   |
| 13. Inebriety or Narcomania: its Ætiology, Pathology, Treatment and Jurisprudence. By NORMAN KERR, M.D., F.L.S.; Fellow of the Medical Society of London; President of the Society for Study of Inebriety, &c., - - - - -                                                                                                 | 48   |
| 14. Bulletin of the American Academy of Medicine, - - - - -                                                                                                                                                                                                                                                               | 50   |

### PART III.—SPECIAL REPORTS.

|                                                                                                                                                                                                     |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| REPORT ON PRACTICE OF MEDICINE. By HENRY T. BEWLEY, M.D., Univ. Dubl., F.R.C.P.I.; Assistant Physician to the Adelaide Hospital; and Lecturer on Medical Jurisprudence in Trinity College, Dublin:— |    |
| 1. The Antitoxin Treatment of Diphtheria, - - - - -                                                                                                                                                 | 54 |
| 2. Morning Diarrhœa, - - - - -                                                                                                                                                                      | 60 |
| 3. The Treatment of Nocturnal Enuresis, - - - - -                                                                                                                                                   | 61 |
| 4. The Drug Treatment of Phthisis, - - - - -                                                                                                                                                        | 62 |
| 5. Creasote in Tuberculosis, - - - - -                                                                                                                                                              | 63 |
| 6. Lævulose in Diabetes Mellitus, - - - - -                                                                                                                                                         | 64 |
| 7. Scarlatina-like Rashes in Children, - - - - -                                                                                                                                                    | 65 |
| 8. The Anomalies and Complications of Chicken-pox, - - -                                                                                                                                            | 66 |
| 9. The Treatment of Gonorrhœal Rheumatism, - - - - -                                                                                                                                                | 67 |
| 10. The Management of Fevers, and particularly of Typhoid Fever, -                                                                                                                                  | 67 |
| 11. Adherent Pericardium in Children, - - - - -                                                                                                                                                     | 69 |
| 12. Bichromate of Potassium in Diseases of the Stomach, - - -                                                                                                                                       | 70 |
| 13. The Heart in Chorea Minor, - - - - -                                                                                                                                                            | 71 |
| 14. The Diuretic Action of Calomel in Bright's Disease, - - -                                                                                                                                       | 73 |
| 15. A Mode of making Permanent Preparations of Urinary Tubecasts, - - - - -                                                                                                                         | 73 |



## PART IV.—MEDICAL MISCELLANY.

## ROYAL ACADEMY OF MEDICINE IN IRELAND:—

## SECTION OF PATHOLOGY.

|                                                                                     |   |   |    |
|-------------------------------------------------------------------------------------|---|---|----|
| Iron Deposits in Pernicious Anæmia. By DR. SCOTT,                                   | - | - | 75 |
| Tubercular Iritis. By MR. BENSON,                                                   | - | - | 76 |
| Melanotic Tumour of Eye; Death from Secondary Growths. By MR. STORY and DR. GRAVES, | - | - | 77 |
| Spontaneous Fractures of the Clavicle. By DR. E. H. BENNETT,                        | - | - | 77 |

## SECTION OF SURGERY.

|                                                                                       |   |   |    |
|---------------------------------------------------------------------------------------|---|---|----|
| Some Thoughts on the Method of Relieving an Obstructed Bowel. By MR. THORNLEY STOKER, | - | - | 78 |
| Operations for Cancer of the Jaws and Tongue. By SIR WILLIAM STOKES,                  | - | - | 78 |

## SECTION OF MEDICINE.

|                                                                            |   |   |    |
|----------------------------------------------------------------------------|---|---|----|
| Exhibits. By DR. H. C. TWEEDY, and DR. JOSEPH REDMOND and MR. P. J. HAYES, | - | - | 80 |
| On some Therapeutical Traditions. By DR. W. G. SMITH,                      | - | - | 81 |
| A Case of Small-pox and its Lessons. By DR. J. W. MOORE,                   | - | - | 82 |

SANITARY AND METEOROLOGICAL NOTES. Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F.R.Met.Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

|                                                                                      |    |
|--------------------------------------------------------------------------------------|----|
| Vital Statistics for Four Weeks ending Saturday, December 3, 1894,                   | 83 |
| Meteorology—Abstract of Observations made at Dublin for the Month of November, 1894, | 89 |

## PERISCOPE:—

|                                     |   |   |    |
|-------------------------------------|---|---|----|
| Antimalarial Action of Methyl-blue, | - | - | 53 |
| Experimental Typhoid Fever,         | - | - | 74 |
| Anæsthetics,                        | - | - | 82 |
| Argentamin,                         | - | - | 93 |
| Thioform,                           | - | - | 94 |
| Chloride of Zinc causing Death,     | - | - | 94 |
| Sphacelotoxin,                      | - | - | 94 |
| Lactophenin,                        | - | - | 95 |
| Methyl-blue and Epithelioma,        | - | - | 95 |
| Methyl-blue for Cancer,             | - | - | 95 |
| Diphtheria,                         | - | - | 96 |
| Phenocoll,                          | - | - | 96 |

## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS:—

|                                |   |   |    |
|--------------------------------|---|---|----|
| Iodide of Iron Pills. Exalgin, | - | - | 96 |
|--------------------------------|---|---|----|

# The Kepler Products.

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## The KEPLER SOLUTION of COD-LIVER OIL in MALT EXTRACT.

THE Kepler Solution was the first preparation which represented a rational method of administering cod-liver oil. When an oil is given alone, a considerable and prolonged digestive effort is required before assimilation is possible, and in not a few instances it is voided unchanged. Moreover, the digestion is generally soon deranged. The two problems which remained unsolved for so many years were: (1) how to cover the unpleasant taste of the oil; (2) how to increase its assimilability. Pharmacists tried every possible means to attain these ends, but since they lost sight of the fact that cod-liver oil is a food, and treated it as a drug, they met with only partial success. In emulsions the taste was somewhat masked, but it was found that in the stomach the oil globules coalesced, and unpleasant and nauseating eructations resulted. In the Kepler Solution the oil is actually dissolved in Extract of Malt. It is not emulsified, and no globules are visible under the microscope. No unpleasant effects are produced when it is taken into the stomach, but it passes through the pylorus unaffected, and is readily absorbed by the lacteals.

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# THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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JANUARY 1, 1895.

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## PART I. ORIGINAL COMMUNICATIONS.

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Art. I. — *Remarks upon some Therapeutical Traditions.* By  
WALTER G. SMITH, M.D.; President of the Royal College of  
Physicians.<sup>a</sup>

(1) A FEW words, in the first place, upon the influence of diet upon diseases of the skin. I have long since come to the conclusion that the effects of diet in the therapeutics of diseases of the skin are commonly much overrated, not only by the public but by the profession. Some text-books upon diseases of the skin give us minute dietetic details, and many practitioners supply precise instructions to their patients as to what they should eat and what they should avoid—directions which I doubt they would strictly follow themselves if similarly affected.

Now, with a few exceptions, such as urticaria, the polymorphous erythemata, and some cases of eczema, there is, I consider, little reason to particularise beyond urging our patients to follow the simple rule of moderation in all things—eating as well as drinking. In our male patients total abstinence from alcohol is often the one thing needful. Idiosyncrasy comes in largely, and upon this point an intelligent patient ought to know more about his own stomach than any doctor can tell him.

One of the most deeply-rooted traditions in dietetics is the prohibition of salt food in diseases of the skin, and most patients

<sup>a</sup> The substance of an Address, introductory to the opening of the Medical Section of the Royal Academy of Medicine on Friday, November 16, 1894. [For the discussion on this Paper, see page 81.]

expect, and are accordingly assured that they cannot, for example, be allowed to touch a morsel of ham or bacon. Yet I am convinced that this almost universal opinion, albeit venerable by age and accredited by high authority, is a delusion, and is lazily acquiesced in by practitioners without due examination. Have any of my hearers made definite observations upon this point? For many years past I have as a rule ignored it, and neither my patients nor myself have had reason to regret the liberty accorded to them of a sudden change from minus salt food to plus salt food. To many, and especially to country patients, it is a serious deprivation to be obliged to deny themselves one of the staple articles of rural diet, and that the most tasty item in the week's menu. It may be felt by some who hear me that I am flogging a dead horse, and that they at any rate do not countenance old wives' traditions. But it cannot be denied that tradition and authority hold powerful sway over the minds of practitioners, and it is not always easy to escape from the shackles of narrow ideas imbibed during one's student career.

Chloride of sodium is a very harmless salt, and we all ingest abundantly more than we actually need for the organism—in fact, people liable to urinary gravel should be advised to take as much salt with their meals as their palates will tolerate. Plenty of common salt seems to be inimical to the formation of urinary calculi, especially uric acid concretions, for it is well attested that seafaring men, who habitually consume much salt, and the inhabitants of a district of Norfolk, where the drinking water is brackish, are singularly free from stone as compared with the dwellers in adjacent districts in that county.<sup>a</sup>

I often say to my patients, there is not much difference between taking the salt *in* your food and on the plate *with* your food—and is it not true that a person with weakly digestion or a jaded appetite will relish and easily digest a thin slice of ham when their stomach would revolt against other meat? If the prohibition be not well founded, then it is time for physicians to cast off a mere blind following of tradition, and to educate their patients up to a more rational state of mind. But, it may be asked, and fairly, is there not some basis for this tradition, so religiously observed by doctors and their clients? There are, I think, two grains of wheat in the bushel of chaff. First—It may be conceded that some kinds of salt meat are tougher, less nutritious, and less

<sup>a</sup> Roberts' Croonian Lectures. 1892. P. 48.

digestible than well-cooked fresh meat; and it is needless to enlarge upon the ill effects of an exclusive and prolonged salt diet. But how often does this possibility occur in civil practice, or among well-to-do patients? Is there satisfactory evidence that salt meat, in moderation, acts as a reflex irritant to the skin? I think not. The second morsel of truth lies in connection with gout. It is the present habit to ascribe many skin diseases to gout, and we hear every day of "gouty eczema," "gouty psoriasis," and the like, and many queer nondescript ailments are at once shunted off the main line to a gout-siding. I will not stop to inquire how much truth there is in this statement, or to what extent it may be but a passing wind of fashion or an excuse for ignorance. At any rate we have to deal with many people who either have, or like to think they have, gout, and who are very solicitous about their culinary arrangements, and ask us for guidance.

Now Sir W. Roberts has shown that there is a striking relation between the local distribution of deposits of urates in the body and the percentage of sodium salts contained in the several organs and tissues. "Indeed," he adds, "it might apparently be said with truth that if we possessed the power of regulating the dosage of sodium salts in the fluids and tissues of the system, we should be able effectively to control the occurrence of uratic depositions."<sup>a</sup>

Very small quantities of sodium chloride (0.1 per cent. or even less) appreciably favour the precipitation of the crystalline bi-urates. Hence, it seems reasonable to direct gouty patients to restrict, as far as practicable, the use of common salt with their meals, and to avoid mineral springs which are rich in sodium salts. And here let me add a word of caution not to fall into the trap of regarding gout and uric acid gravel, *i.e.*, precipitation in the urinary passages, as convertible terms, especially from a therapeutic point of view.

In their long and large experience, neither Sir Alfred Garrod nor Sir William Roberts can recall a single instance in which a paroxysm of gout and a paroxysm of uric acid gravel broke out synchronously; there is no correspondence between the prevalence of gout and stone in the several counties of England and Wales; and in Scotland, where gout is rare, stone is comparatively common.<sup>b</sup>

<sup>a</sup> Croonian Lectures. 1892. P. 124.

<sup>b</sup> Roberts, *loc. cit.* P. 56.

I have already alluded to the different relation in which the tendency to the formation of uric acid concretions stands in relation to sodium chloride—a striking illustration of the diverse pathology of gout and of uric acid deposition.

(2) I shall next allude to the employment of alkalies, and particularly of lithia, in the treatment of gout and various skin affections. This is certainly a very popular plan, and is apparently based upon a plausible and simple foundation, *i.e.*—of converting uric acid into its most soluble salts, and so facilitating its removal from the system. Yet does it not rest upon a fallacy or rather upon several fallacies?

As to the general question, Sir W. Roberts shows, on experimental as well as clinical grounds, that the belief in an acid dyscrasia in gout rests upon a pure assumption, and in this he is in accord with Sir Alfred Garrod.<sup>a</sup>

But it will be urged that careful experiments outside of the body surely prove that carbonate of lithia and, I may add, the last fad, piperazine, possess a high solvent power over free uric acid. Grant all this. Still such crude and simple laboratory experiments have little or no practical bearing on therapeutics of gouty affections, for it has been demonstrated that the “addition of carbonate of lithia or piperazine, in the proportion of 0·1 per cent. and 0·2 per cent. to blood serum or synovia, had not the slightest effect in enhancing the solvent power of these media on sodium bi-urate, nor the slightest effect in retarding its precipitation from serum and synovia artificially impregnated with uric acid.”<sup>b</sup>

And there is another fallacy which is not quite so readily apparent. Our body contains a large amount of alkaline salts, mainly sodium salts. What then is the effect of administering to a patient a few grains, say, of carbonate of lithia? The lithia water of the B. P. ought to contain 10 grs. of carbonate of lithia to the pint. Suppose a patient drank a quart in the 24 hours—*i.e.*, 20 grs. of  $\text{L}_2\text{CO}_3$ .

It is, I fancy, innocently apt to be assumed that because urate

<sup>a</sup> If alkalies have any beneficial action in gout it is certainly not due, as Roberts shows, to their solvent action upon the material of gouty concretions. (*Loc. cit.* P. 130.)

<sup>b</sup> The normal alkalescence of the blood is, doubtless, liable to diminution and slight variations, but no one has ever yet found living human blood to possess an acid reaction. Uric acid has been found in the blood in many other diseases besides gout, and, moreover, the exact quantitative determination of uric acid in blood is beset with grave difficulties.

of lithia is more soluble than urate of potash or soda, therefore the lithia will at once seize on the uric acid and perchance displace it from its other alkaline salts. But this is a misconception of chemical philosophy, and ignores an important and fundamental principle of chemical dynamics—the full significance of which has only of late been recognised. I refer to the great principle of the action of the relative amounts of substances intervening in a chemical reaction.

This problem was first investigated by Wenzel in 1777, and some years later by Berthollet, in his remarkable essay on Chemical Statics. He clearly showed by many proofs that, to use his own words, “An excess of quantity of the body whose affinity is the weaker, compensates for the weakness of affinity,” and he gave the name *mass* to this active quantity of the body taking part in a given chemical change.

Berthollet has taught us that in a solution of acids and bases the acids are partitioned among the bases in proportion to their *masses*. Of what avail, then, for a patient to swallow daily a few grains of lithia, which can combine, in the presence of a large excess of soda, with only an infinitesimal fraction of uric acid.

For my own part, I never prescribe lithia water to my patients. There is no objection to their taking it if they choose. A pint of lithia water is, to all intents, equivalent to a pint of pure water.

Similar considerations apply with added force to many other much-vaunted mineral waters; and the elaborate chemical analyses of the various springs—all arising, it may be, from one geological stratum—that are paraded by balneologists, only prove that many persons are unable to see a joke, and cannot perceive that the difference is, as has been said, only that betwixt tweedle-dum and tweedle-dee.<sup>a</sup>

To avoid misunderstanding I must point out that these considerations do not apply to the power which we possess in altering at will the reaction of the *urine* from alkaline to acid, and still more readily from acid to alkaline. There is an essential difference between the two problems.

(3.) Let me adduce another example that touches practical pharmacy as well as therapeutics. Some years ago pills coated with keratin were introduced, and are still prescribed. The notion was that the keratin would act like a time-fuse. For, it was alleged, keratin is insoluble in the acid contents of the

<sup>a</sup> British Medical Journal. November 12, 1887. P. 1065.

stomach, but will be dissolved in the alkaline juices of the small intestine. Hence, if we wish to delay the action of a drug—*e.g.*, salol or salacetol—until it reaches the intestine, wrap it deftly up in keratin, and, lo! it passes unscathed through the stomach, reserving its activities for the duodenum and jejunum, where it is said to undergo a sort of saponification. A pretty and ingenious hypothesis! But how stand the facts?

There is no doubt whatever that the surface of the *mucous membrane* of both small and large intestine reacts alkaline, and that it is exceptionally rich in sodium carbonate. It is also true that the bile and pancreatic fluid are alkaline liquids. Hence it would seem obvious, and such teaching has long passed current in the systematic text-books, that the *contents* of the small intestine, at any rate in their upper portion, must needs be alkaline.

But it has been long known that acetic and other acids are found in the products of digestion, and the very careful observations and experiments of Macfadyen, Nencki, and Sieber (*Arch. f. exp. Path. und Pharm.*, Bd. 28) have taught us that the *contents* of the small intestine are normally acid, and sufficiently so to overpower the alkalinity of the intestinal sodium carbonate.

Where does all this acid come from? It arises mainly from lactic and acetic acids, which are freely produced by decomposition of the carbohydrates of the food under the influence of various micro-organisms which these observers have identified and cultivated.

We see, then, that the theory of keratin-coated pills, and the ingenious suggestion of Ewald and others to use salol as a test of the rate of passage through the stomach into the small intestine, are both inadmissible, and are founded upon misconceptions.

ART. II.—*Clinical Report of the Rotunda Lying-in Hospital, for Year 1892-1893.*<sup>a</sup> By WILLIAM J. SMYLY, M.D.; Master, Rotunda Lying-in Hospital; JOHN H. GLENN, M.B.; and HASTINGS TWEEDY, L.R.C.S.I., Assistants.

DURING the year ending November 1st, 1893,—  
 1,288 patients were confined in the hospital.  
 2,105        „                „                at their own homes.

---

3,393 cases relieved.

<sup>a</sup> Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, November 23rd, 1894.



*Table of Deaths.*

| Name           | Admitted     | Delivered   | Died      | Cause                            |
|----------------|--------------|-------------|-----------|----------------------------------|
| 1. M. -        | Dec. 17, '92 | Dec. 18 -   | Dec. 18   | Eclampsia                        |
| 2. M. M'C. -   | " "          | " "         | " "       | Ruptured cervix                  |
| 3. M. N. -     | Jan. 1, '93  | Jan. 27 -   | Jan. 27 - | Eclampsia                        |
| 4. M. A. H. -  | Mar. 9, '93  | Mar. 10 -   | Mar. 10 - | Phthisis                         |
| 5. M. M'D. -   | April 7, '93 | April 7 -   | April 8 - | Septicæmia                       |
| 6. M. F. -     | " 2, '93     | " 3 -       | " 21 -    | Embolism                         |
| 7. M. H. -     | May 31, '93  | May 31 -    | June 1 -  | Post-partum hæmorrhage—Myoma     |
| 8. M. P. -     | June 19, '93 | June 19 -   | " 19 -    | Mitral stenosis                  |
| 9. M. M'C. -   | " 24, '93    | " 28 -      | July 1 -  | Cerebro-spinal meningitis        |
| 10. L. C. -    | " 25, '93    | " 25 -      | " 14 -    | Septic pyæmia—Ruptured symphysis |
| 11. C. B. -    | July 18, '93 | July 18 -   | " 18 -    | Accidental hæmorrhage            |
| 12. M. O'C. -  | " 24, '93    | " 24 -      | " 29 -    | Sepsis                           |
| 13. M. A. R. - | Aug. 31, '93 | Undelivered | Sep. 9 -  | Uræmia                           |
| 14. K. L. -    | Sep. 24, '93 | Sep. 24 -   | " 26 -    | Peritonitis                      |
| 15. K. D. -    | " 30, '93    | " 30 -      | " 30 -    | Accidental hæmorrhage            |
| 16. S. W. -    | " 25, '93    | " 25 -      | Oct. 20 - | Mania                            |
| 17. L. M'G. -  | Oct. 29, '93 | " 29 -      | Nov. 9 -  | Sapræmia                         |

*Table showing Number and Nature of Cases in Extern Maternity for Year 1892-93.*

|                                  |    |       |                                    |    |
|----------------------------------|----|-------|------------------------------------|----|
| Total number -                   | -  | 2,105 | Secondary hæmorrhage -             | 1  |
| Abortions -                      | -  | 247   | Prolapse of uterus -               | 2  |
| Hydramnios -                     | -  | 9     | Adherent placenta -                | 18 |
| Carneous mole -                  | -  | 1     | Deformity of pelvis -              | 2  |
| Face to pubes -                  | -  | 9     | Version -                          | 15 |
| Face -                           | -  | 3     | Forceps -                          | 28 |
| Brow -                           | -  | 3     | Mania -                            | 1  |
| Breech and lower extremities -   | 68 |       | Episiotomy -                       | 1  |
| Shoulder and upper extremities - | 7  |       | Deaths from non-puerperal causes - | 2  |
| Twins -                          | -  | 29    | Mortality -                        | 5  |
| Prolapse of funis -              | -  | 7     | Children dead, born { Fresh -      | 46 |
| Placenta prævia -                | -  | 16    | { Macerated -                      | 11 |
| Accidental hæmorrhage -          | -  | 14    | Hydrocephalus -                    | 1  |
| Post-partum do. -                | -  | 24    | Ophthalmia neonatorum -            | 2  |

*Table showing Nature of Cases in Rotunda Lying-in Hospital  
for Year 1892-93.*

|                                |   |       |                                  |           |    |
|--------------------------------|---|-------|----------------------------------|-----------|----|
| Total number of labours        | - | 1,238 | Induction of premature labour    | -         | 6  |
| Primiparæ                      | - | 458   | Turning                          | -         | 11 |
| Abortions                      | - | 41    | Forceps                          | -         | 45 |
| Hyperemesis                    | - | 1     | Perforation                      | -         | 1  |
| Hydramnios                     | - | 3     | Episiotomy                       | -         | 2  |
| Carneous mole                  | - | 1     | Symphysiotomy                    | -         | 3  |
| Face to pubes                  | - | 8     | Eclampsia                        | -         | 9  |
| Face                           | - | 3     | Insanity { Mania                 | -         | 3  |
| Brow                           | - | 5     | { Melancholia                    | -         | 1  |
| Breech and lower extremities   | - | 43    | Phlebitis                        | -         | 4  |
| Shoulder and upper extremities | - | 3     | Phlegmasia                       | -         | 1  |
| Twins                          | - | 19    | Embolism                         | -         | 1  |
| Prolapse of funis              | - | 12    | Deaths from non-puerperal causes | -         | 4  |
| Placenta prævia                | - | 8     | Morbidity <sup>a</sup>           | -         | 60 |
| Accidental hæmorrhage          | - | 12    | Mortality <sup>b</sup>           | -         | 18 |
| Post-partum do.                | - | 24    | Children still-born {            | Fresh     | 66 |
| Secondary do.                  | - | 1     |                                  | Macerated | 26 |
| Prolapse of uterus             | - | 1     |                                  | Putrid    | 3  |
| Infusion intravenous           | - | 2     | Spina bifida                     | -         | 2  |
| Do. subcutaneous               | - | 1     | Anencephalous                    | -         | 4  |
| Adherent placenta              | - | 19    | Cephalhæmatoma                   | -         | 1  |
| Myoma                          | - | 1     | Ophthalmia                       | -         | 3  |
| Deformity of pelvis            | - | 10    | Fœtus papyraceus                 | -         | 1  |

In our former Report of the Lying-in Hospital we stated that the morbidity of the patients delivered in the wards was a safer test of the precautions taken to guard them from septic infection than the actual mortality. The present Report confirms that opinion, for the number of deaths during the past year from that cause would lead one to imagine that our precautionary measures had been less successful than in the two preceding years, when we were fortunate in having no fatal case to report. The morbidity, on the other hand, is decidedly less, and would lead to an opposite and, we believe, more correct conclusion. By morbidity is meant the number of cases in which the temperature even once exceeded 100°. The details of the fatal cases are even more convincing, three out of the five having been admitted in an advanced stage of the disease, a fourth was infected from an abscess in the pubic symphysis, the genital canal remaining healthy; and the fifth was the result of a surgical operation, and is fully detailed under "symphysiotomy."

CASE I.—M. M'D., aged thirty-four; 7-para; admitted April 7th, 1893, was sent in from the country in advanced stage of septicæmia.

<sup>a</sup> 4·5 per cent.

<sup>b</sup> 1·3 per cent.

Temperature on admission,  $103.6^{\circ}$ ; pulse very feeble, and too rapid to be counted. Breech presenting—vagina douched with creolin—a foot brought down and child extracted, deeply asphyxiated but resuscitated. Mother died the day after admission. Autopsy—Purulent peritonitis, liver fatty, spleen enlarged, old pleuritic adhesions. Child developed cellulitis of the neck and died on the second day.

CASE II.—L. C., aged twenty-eight; 3-para; admitted with temperature  $100.6^{\circ}$ ; six and a half hours in labour; delivered of a dead female child, weighing nine and a half pounds. After delivery she was unable to turn in bed, and screamed with agony when moved. The pain was referred to the symphysis pubis, and there was tenderness on pressure over the joint. Diagnosis, ruptured symphysis. Third day temperature rose to  $102.2^{\circ}$ ; sixth day it reached  $104^{\circ}$ ; pulse 140; severe rigors on the succeeding days and other symptoms of pyæmia. The lochia, however, continued normal, and there was no tenderness over uterus. Death on the 11th day. Autopsy—Separation of pubic symphysis, the space between the bones being filled with pus; pyæmic abscesses in various organs; uterus and appendages healthy.

CASE III.—M. O'C., aged twenty-six; 1-para. The patient was sent into hospital after an unsuccessful attempt to deliver with forceps had been made by a practitioner outside. On admission she was bleeding profusely from an extensive laceration of the vaginal wall and perineum. She was so collapsed that immediate delivery was postponed. The vagina having been douched out with hot water and creolin, it was plugged to control the hæmorrhage and bring on labour pains. Ten hours after admission temperature rose to  $102^{\circ}$ . A dead child was extracted with forceps. Temperature next day  $102^{\circ}$ ; on the third day it rose to  $104^{\circ}$ ; pulse 150; vaginal wound sloughing. She died of septicæmia on the fifth day.

CASE IV.—K. L., aged twenty-nine; 8-para. Temperature on admission  $102.9^{\circ}$ , delivered of a seven months' fœtus which only survived an hour and a half; temperature same evening  $105^{\circ}$ . Abdomen tympanitic, catarrhal pneumonia of left lung. Died third day. Autopsy—Purulent peritonitis, pleuro-pneumonia on left side.

#### ABORTIONS.

Forty-one women aborted, eighteen of whom required no assistance. In three the uterus was emptied by the finger alone, and in nineteen the uterus was curetted after the removal of the ovum. One patient only was plugged.

The general rules adopted in the treatment of abortion were to leave the case to nature, unless there were special indications for direct interference. Opium was given to stop pains, and hydrastis

canadensis for hæmorrhage. The indications for interference were—First, hæmorrhage. In these cases the os was generally sufficiently dilated to allow of the immediate emptying of the uterus—in one case only was there severe hæmorrhage with an insufficiently dilated os; she was plugged. Second, incomplete abortion. If the fœtus or any other part of the ovum had escaped, the same rule was adopted as in labour at term—viz., to wait half an hour, and if the rest of the ovum did not come away, to empty the uterus; further delay could serve no good purpose, and would expose the patient to the risks of hæmorrhage and putrefaction, necessitating removal under less favourable circumstances. Excepting the one patient who was plugged there was no abnormal rise of temperature or return of hæmorrhage.

#### BROW PRESENTATIONS.

There were three brow presentations; two cases were terminated by forceps. The other was left to nature.

#### FACE PRESENTATIONS.

Four face presentations, all of which terminated naturally.

#### CROSS BIRTHS.

There were three cases of transverse or oblique presentation. In one, cephalic version was performed by external manipulation before the membranes had ruptured, and the child was expelled alive by the natural efforts. The other two children were dead and macerated. One was delivered by bipolar version and the other by internal version. All the mothers did well.

#### PROLAPSE OF FUNIS.

This complication occurred twelve times with the loss of four children—three times in twins, twice with the second child, and once with the first. In two cases of symphysiotomy the children were saved. The forceps was used twice, one child was alive. Two cases of breech with rapid extraction had the same result. In one case of accidental hæmorrhage the child was alive. Manual reposition of the cord was tried in every suitable case.

#### PLACENTA PRÆVIA.

There were eight cases with one death, the result of pulmonary embolism. In three cases the children were born dead. Two cases

were left to the natural forces of labour. Forceps was applied in one instance, and in the remaining five cases the treatment consisted of rupturing the membranes, turning and bringing down a leg through the cervix; then leaving the woman to be delivered by the natural process. In some instances the foot remained protruding through the vulva for hours before pains were excited, but there was no hæmorrhage.

CASE.—M. F., aged twenty-eight; 5-para. Delivered, April 3, 1893. Partial placenta prævia, os size of five-shilling piece, version foot brought down, phlebitis of varicose vein in calf of right leg. Symptoms of pulmonary embolism set in on 18th day. *Post mortem*—Clot in pulmonary artery.

#### ACCIDENTAL HÆMORRHAGE.

Twelve cases with two maternal and six foetal deaths. In three cases no special treatment was required. In three version alone was adopted, while the remaining six cases were plugged and bound with a tight binder. Version was performed subsequently in three of these cases as further treatment.

The vaginal plug, when efficiently applied, before the rupture of the membranes, stopped the hæmorrhage in every instance, and had the further advantage of inducing labour pains and causing the rapid dilatation of the os.

#### *Accidental Hæmorrhage—Fatal Cases.*

CASE I.—C. B., aged thirty-two; ninth pregnancy. Patient very anæmic on admission, profuse flooding, os undilated, vagina douched with creolin lotion and plugged. Labour pains having set in the plug was removed, os size of a shilling, douched again; version performed by bipolar method and foot brought down, child slowly extracted. Severe post-partum hæmorrhage. Patient collapsed.

CASE II.—K. D., aged thirty; sent in from external maternity. On admission was blanched, temperature subnormal; pulse 140. Plug removed, membranes having ruptured long before; os size of two shillings, rigid; head presenting; no foetal heart. Perforation; extraction with cranioclast being impossible, version performed. Patient collapsed. Cervix had to be divided with scissors, *post-mortem* to complete delivery.

#### POST-PARTUM HÆMORRHAGE.

There were twenty-four cases of post-partum hæmorrhage. Six were traumatic, due to lacerations of the cervix—in three the rents were closed by suture, and in three plugged with iodoform

gauze. The others were atonic—viz., six, the placenta or membranes had to be removed manually; two plugged with iodoform gauze; all douched with hot water. The perchloride of iron was not used in any case. One patient with a submucous myoma died.

CASE.—M. H., aged thirty-one; 8-para; admitted May 31st, 1893. Normal labour, uterus remained abnormally large, clots pressed off, uterus contracted well; hæmorrhage ceased. One hour after delivery hæmorrhage returned; large quantity of clots expressed, uterus again contracted well and hæmorrhage ceased. Four hours later hæmorrhage recurred, uterus again relaxed, clots again expressed, hæmorrhage controlled. Patient rallied for a time, but gradually sank and died. Autopsy—A submucous myoma about as large as a Tangerine orange was found attached to the posterior wall of the fundus uteri.

#### DEFORMED PELVES.

There were ten cases of contracted pelvis; eight were flattened pelves, and two generally contracted flattened pelves. The measurements were taken with Skutsch's pelvimeter, or Dr. Bullit's modification of the same.

Four of these were delivered by forceps—one by perforation; two by induction of premature labour, and three by symphysiotomy.

Three mothers died, two from improper use of the forceps previous to admission, and one from symphysiotomy. These cases are detailed under septicæmia, forceps and symphysiotomy. In the treatment of these cases, where a living child can reasonably be expected, we do not now employ prophylactic version, but rely more upon the powers of nature to mould the foetal head to the brim, and adhere as strictly as possible to the rule only to employ the forceps in those cases where the head has already passed the brim by at least its greatest transverse diameter. The cases of M. M'C., M. O. C., and M. A. D., are painful illustrations of the importance of this rule. Another very instructive example was that of M. B., aged twenty-seven, admitted 21st August, 1893. Head presenting movable above brim. Labour had commenced at 6 30 a.m., membranes ruptured 9 15 p.m. Strong labour pains. Evening of 22nd, head was fixed in brim which was contracted. Large caput succedaneum low down in pelvis, foetal heart 130, os fully dilated, chin of foetus a hand's breadth above symphysis pubis. Neville's forceps applied, and an ineffectual attempt made to extract the child. Next morning forceps again employed and child extracted alive without difficulty.

## VERSION

(November, 1892, to November, 1893).

Version was performed eleven times. In two instances, external version was accomplished. In one of them a transverse presentation was changed into a vertex. In the other a head was converted into a breach as part of the treatment in ante-partum hæmorrhage.

The indications for version were :—

|                       |   |   |   |   |
|-----------------------|---|---|---|---|
| Prolapse of cord      | - | - | - | 1 |
| Craniotomy            | - | - | - | 1 |
| Oblique positions     | - | - | - | 2 |
| Placenta prævia       | - | - | - | 5 |
| Accidental hæmorrhage | - | - | - | 3 |

Forceps were used in forty-five cases, twenty-seven of which were primiparæ.

Indications :—

|                                                      |   |   |   |    |
|------------------------------------------------------|---|---|---|----|
| Delay, <i>i.e.</i> , over five hours in second stage | - | - | - | 16 |
| Threatened rupture of uterus                         | - | - | - | 1  |
| Rise of temperature                                  | - | - | - | 7  |
| Phthisis                                             | - | - | - | 1  |
| Failure of fœtal heart                               | - | - | - | 10 |
| Placenta prævia                                      | - | - | - | 1  |
| Prolapse of funis                                    | - | - | - | 2  |
| Occipito-posterior positions                         | - | - | - | 5  |
| Brow presentations                                   | - | - | - | 2  |

Three mothers and seven infants died.

One patient developed acute congestion of the lungs the day after delivery, which only lasted twenty-four hours, and which we attributed to the administration of chloroform in close proximity to a candle. The perineum which was lacerated failed to unite and developed a puerperal ulcer. She went out well on the 18th day.

One mother died of septicæmia and is recorded under that heading, another of phthisis; the third, M. M'C., aged thirty-nine, 1-para, had been four days in labour before admission, and an unsuccessful attempt to deliver with forceps had been made by a practitioner outside. Admitted in a state of collapse. The pelvis was deformed and the head freely movable above the brim. Cervix torn and hanging down into the vagina by a narrow pedicle. Profuse hæmorrhage. Delivery was postponed owing to condition of the patient. Vagina plugged to control hæmorrhage, and stimulants given. Patient had some sleep during the night, and

the next morning a dead fœtus with a fractured skull extracted with forceps. The head having passed the brim no difficulty was experienced during extraction. The placenta was adherent and had to be removed. The patient being in a very exsanguine condition, was infused with saline solution, but with temporary benefit only; she gradually sank and died in the evening of the same day.

#### CRANIOTOMY (was performed once).

CASE.—M. A. D., aged twenty-eight; admitted 20th December, 1892. An unsuccessful attempt had been made by a practitioner outside to deliver with forceps. Cervix lacerated, profuse hæmorrhage. The pelvis was deformed. The true conjugate was  $2\frac{3}{4}$  inches; no fœtal heart. The head was perforated, crushed by cephalotribe and delivered with cranioclast. Cervix plugged with iodoform gauze. Patient went out on the eighth day.

#### SYMPHYSIOTOMY.

This operation was performed three times, and, though one patient died, we hold it to be a good method of delivery in suitable cases.

CASE I.—J. M., aged forty-three; 10-para; admitted November 19th, 1893. Her first eight labours ended naturally, the ninth was a very difficult forceps delivery, the child being extracted dead. Since then she had suffered from rheumatism, and latterly had been unable to walk. The pelvis was flat, C. V. 7 cm. After ninety-one hours of labour an unsuccessful attempt was made with forceps. The symphysis pubis was divided and the head expressed manually. The sudden separation of the pubic bones caused a laceration of the urethra, which the Master was able to cure by a subsequent operation. Mother and child left the hospital well. Probably owing to the long rest in bed her rheumatism had so much improved that she could walk fairly well. There was good union of the bones.

CASE II.—E. M., aged twenty-two; admitted August 23rd, 1893; 5-para. Had been delivered on former occasions by craniotomy. Pelvis flat, C. V. 7.6 cm. Hand presented with head. After twenty-two hours labour cord prolapsed. An unsuccessful attempt having been made to apply the forceps, symphysiotomy was performed. The head immediately passed the brim and delivery was completed by forceps. The patient made an afebrile recovery, and left the hospital with her infant in good health.

CASE III.—E. M'G., aged twenty-six; 3-para. Flat pelvis, C. D. 8 cm. Her first pregnancy was terminated by perforation, the second by



induction of premature labour, and she was advised to have the same on this occasion, but did not come into hospital until full term. After many hours' labour the cord prolapsed; the symphysis was divided, and the child turned and extracted. There was an extensive laceration of the cervix and urethra, with violent hæmorrhage. The laceration was closed with sutures, and eight pints of saline solution infused. Temperature rose on fourth day, the wound assumed an unhealthy, sloughy appearance, and she died on the twelfth day.

All the infants survived.

#### ECLAMPSIA.

There were nine cases during the year. The mortality was—in mothers, two; in infants, five. The urine in every case was found highly albuminous. In no case was the number of fits so high as in previous years, partly due no doubt to the different treatment adopted. Chloroform was administered as sparingly as possible, and, in our later cases, Veit's treatment—hypodermic injection of morphin—was adopted with satisfactory results; though the number of cases is as yet too small to warrant us in being at all dogmatic.

In one case a secundipara of twenty-five, who had three fits before and eight after admission; delivered of twins, males, alive. The treatment adopted was large enemata of saline fluid, and spartein by the mouth. She made a good recovery.

#### CEREBRO-SPINAL MENINGITIS.

CASE.—M. M'C. Temperature on admission 100.29, pulse 130. Intense pain in occiput; head drawn backwards. Hæmaturia. Aborted 28th of June. Evening of 30th, temperature 105°, pulse 160. Died at midnight. The case was seen by Dr. James Little, Consulting Physician to the Hospital, who confirmed the diagnosis.

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ART. III.—*A Study of Obstinate Hiccough.* By W. LANGFORD SYMES, L.R.C.S.I., L.R.C.P.I.

“*Avia terrarum peragro loca, nullius ante  
Trita solo.*”—*Lucretius.*

ATTEMPTS to establish the specific nature of a given disease, to contribute to its pathology, or to raise a definite pathological condition to the standard of recognition by authors on medicine, are at least attended with the advantage of promoting accurate

observation and exciting minute inquiry, and are rendered desirable in proportion to the uniformity, persistence, and suffering of the complaint, if not its fatal termination. That the subject of persistent and obstinate hiccough is worthy of such treatment is evident to anyone who has stood, probably powerless, by the side of an intractable case, and witnessed the agonies both of body and mind produced after days of an unceasing and painful spasm. The reproaches, therefore, of recent journalists—that it is thus deserving of more consideration at our hands—is not without serious foundation, for in the intricacies of a case of this most extraordinary neurosis, one may turn almost in vain to recent authorities for help and information. Precise records of its pathological bearing are amongst the rarest in our literature. All the light an investigator can find with which to more accurately examine so weird a malady, is summed up in the few examples cited here and there as mere curiosities or monstrosities of medicine. Hundreds of our best physicians live their life through without having met with an example of it, and rare must be the case in which a second or third instance is observed. One of the commonest of trivial personal discomforts—it is sometimes met with in the prostrate stages of certain diseases, where its import has ever been regarded as unfavourable, while its occurrence as the only manifestation of disease, the one single symptom—nay, the essential disease itself, is probably one of the rarest of pathological states. It is in this, its more serious connection, that the following remarks are chiefly intended to apply, and a clinical illustration of its existence in this form will be the best ground from which to view its pathology, prognosis, and treatment—a study alike pregnant with difficulty and interest. The following instance was recently under the writer's care, when its phenomena were observed with caution, and an endeavour was strenuously made to get at the root of this malady :—

CASE.—An old gentleman, aged eighty-seven, of a gouty disposition, whose organs were structurally sound, whose system, however, had been but seldom relieved by a regular attack of an acute nature, was subject to two ailments—one, occasional affections of the respiratory tract in winter—catarrh, bronchitis, or congestion of the lungs; the other, on very rare occasions, a true articular gout.

For six months previous to the following attack of hiccough he suffered from severe congestion of the lungs—now in one, now in the other—on one occasion numbness and tingling in the left arm and leg

from apparently some cerebral thrombosis, while the congestion of the lung gradually assumed a cirrhotic character, with dulness and exposure of the base of the heart over the third left rib, accompanied by profuse glutinous expectoration. Within the last month the congestion became clearer, being succeeded by an irritating, dry condition of the throat and upper air passages, with, at times, distressing aphonia.

This, however, gradually improved, and one evening during his convalescence he commenced to hiccough. After a time it became distressing, and he was given some sodii bicarbonas without relief; salt was tried, but had no effect, also sal volatile and ginger, but it continued all night unabated, while sipping water and holding the breath were of no use. Next morning, there being some considerable intestinal flatus, a purgative emulsion of castor-oil with turpentine was prescribed, and although free purgation resulted, no improvement took place. Ice was swallowed in lumps, and a mustard blister was applied to the epigastrium, followed, like other remedies, by a lull for a short time—the hiccough soon returning quite as violently. Raw whisky would sometimes check it suddenly, and give great relief, but for a time only. Chartreuse, vinegar, and eau melisse also checked it frequently, but only temporarily, and it again continued all night, even during sleep. Turpentine stupe, mustard footbaths, stimulating liniments to the diaphragm were equally unsuccessful. In view of its probably gouty origin doses of bicarbonate of potassium were frequently given in Vichy water, which was freely taken by itself. This seemed to have some effect, but on close observation it was the mechanical act of swallowing which was found to be influential, rather than that which was administered. The mere swallowing of saliva several times in succession was very useful, and still better was the patient being fed very quickly with spoonfuls of arrowroot, hardly allowing him time to hiccough. This, although unpleasant, became necessary to afford relief. Still it returned again and again. Gargling with soda and Vichy water sometimes stopped it, as did several other remedies—*e.g.*, charcoal, brandy, ice to the epigastrium, &c.; a spinal ice-bag to the cervical region having no effect. Thus it continued for eight days and nights almost incessantly.

Another most careful physical examination was made, and revealed but slight congestion of the right lung behind, and left in front, a faint systolic murmur over the mitral area, a congested and very dry condition of the pharynx, and a highly acid state of the urine, with a very minute trace of albumen. Having a slight cramp in the right toe it was frequently irritated with mustard in the hope of determining an attack of gout, but without avail. On again carefully considering the case, it was concluded that the hiccough probably arose from some oesophageal irritation to the branches of the vagus, associated with a catarrhal state of the cardiac orifice of the stomach, gouty in its nature, and that an

attack of articular gout would in all probability clear it up, and on this basis the following mixture was prescribed:—

|                       |   |   |        |
|-----------------------|---|---|--------|
| R. Potassii bromidi   | - | - | gr. 7  |
| Potassii bicarbonatis | - | - | gr. 15 |
| Potassii iodidi       | - | - | gr. 3  |
| Chloral hydrat        | - | - | gr. 5  |

To be taken every sixth hour.

For the two following days it continued as before, apparently unabated even during sleep, although several simple remedies were useful in checking it for a time. However, on the evening of the tenth day it suddenly ceased, as it had often done before, but did not return. The mixture was continued, and after some days tincture of calumba was substituted for the chloral.

On calculating the rate of the hiccough, and the number of hours during which it lasted, I find that during ten days and nine nights it persisted for 148 hours, averaging about sixteen hours per diem at the rate of twenty-nine per minute, alternating with each respiration. During deep sleep, however, it sometimes occurred only every fourth breath.

This gives us a total of 257,520 spasms, the depressing and exhausting effect of which, on a debilitated constitution, it is difficult to describe.

Since the writer is not acquainted with any attempt to carefully consider this subject since the year 1833, when its pathology was a matter of doubt, it will at least aid further investigation if we endeavour to inquire into this “Quixotic” phenomenon in a somewhat definite and systematic manner. Such impressions as from the most careful clinical observation appear to be erroneously held will be corrected, and the subject placed as much as possible upon a surer and more accurate basis.

The words hiccough, hiccup or hickup, have doubtless been derived—in our language at least, and in French (*hoquet*)—from their resemblance to the familiar sound produced in the larynx, varying according to the period of respiration at which the spasm occurs, or whether or not the individual is speaking at the moment. In common parlance amongst the labouring class of our hospital patients, it is not unusual to hear it expressed as a “higgh,” such a one being said to have had a “higgh” or to have “higghed” up! and thus, like many new words, has crept into the language from its gradually acquiring a more extended use and a more respectable patronage. In other languages, the Danish probably excepted, this derivation does not appear to have been made use of.

The most accurate definition of the affection may now be shortly

stated to be "a reflex spasm of the diaphragm, with subsequent closure of the glottis." The older views of a convulsion of the stomach, or that of M'Mahon—viz., a convulsive movement of the œsophagus drawing the stomach and diaphragm upwards, having been long discarded as erroneous.

*Ætiology.*—Probably few pathological conditions, so distinctive in their features, have such an array of exciting causes, and, without embarrassing the subject with unnecessary classifications, these might, with great convenience and some advantage, be reduced to somewhat more order than has hitherto been granted them. It is no rare occurrence to find an incidental and temporary hiccough arise in the course of some abdominal disease, but the majority of these pass quickly away after an evacuation of the bowels, eructation, or vomiting. Similarly those transient cases—originating in irritating kinds of food, stimulants or condiments, or from the opposite conditions of fasting or gluttony, need not be taken into account since they rarely become persistent—are easily traceable to their exciting causes and as easily removed. Equally obscure, however, are those prolonged and intractable instances which have been so long regarded as mere curiosities of medicine, whether they be periodic, annual, intermittent, "lasting for months," or sometimes even fatal; and if we carefully analyse many examples of this variety we will find that they readily fall into one or other of the following groups.

As contemporary literature contains some interesting records, sparsely intermingled, however, with much that is worthless, obsolete and misleading, a selection of some of the more instructive examples may be appended with advantage, under the several headings alluded to in the text, which they will thus more clearly illustrate.

1. *Inflammatory.*—Hiccough frequently arises during the course of severe visceral inflammations, amongst the most frequent of which may be mentioned gastritis, enteritis, peritonitis, hepatitis, hernia, or internal strangulations of the bowel. It is here evidently dependent upon the state of inflammation, tension, and vascularity of the coats of the bowel, and in many instances has persisted unabated until the fatal termination of the case. In the several forms of ileus, and especially internal strangulation from the bands of lymph or adherent coils of intestine, it is almost invariably present, and one of the worst symptoms. I have seen it commence on the ninth day of ileus preceding the onset of

stercoraceous vomit, and persist until the death of the patient on the twenty-first. Here, during each crisis of the symptoms, the patient will commence to hiccough; he then feels very uncomfortable, tosses his legs and arms about recklessly to seek relief, loud borborygmi are heard, and vomiting of faecal matter sets in. This order of events will be frequently observed in severe cases, and found to recur day after day. On dissection, in this instance, three feet of the lower end of the ileum were found tightly constricted by a coil of tolerably healthy intestine, the free margins of which had become adherent so as to form a noose for the invaginated portion.

Similarly in fever, many instances will be found to fall under this heading, and to be dependent upon some localised inflammation of the gastro-intestinal tract; an instance of which is the following:—A man of forty-four years of age was admitted on the 5th day of enteric fever, with foul tongue, pains all over the body, weakness and debility. He lay in bed without high fever, but greatly prostrated until the 19th day, when tormina and diarrhœa set in severely. The next day his countenance was pale and anxious, and he commenced to hiccough. This continued on the 21st, 22nd, 23rd, 24th, 25th, 26th, and 27th days, on the night of which he died. It was accompanied by diarrhœa, debility, dry brown tongue, sordes and involuntary stools. Nothing relieved the spasm. On dissection the stomach was distended with flatus, its internal surface was of a dark mahogany colour, and coated with brownish-yellow mucus. The whole alimentary canal, as far as the sigmoid flexure of the colon, was quite livid, and its lining membrane covered with a dark mucus.

In another case of this description, where violent hiccough persisted in fever, leeches were applied to the epigastrium, and followed by a blister, while the bowels were kept freely open, the patient eventually recovering from the hiccough and fever.

Its existence and significance in this class of diseases has also been well described by Irish writers, who unanimously regard it as a very grave sign when accompanying the floccitatio or carphology of the malignant and prostrate stages of severe typhus and enteric fevers. It is here usually associated with tympanites and meteorism, though it has been seen by several observers independently of digestive trouble, and apparently due to lesions of the nervous system.

Thus it is recorded by Graves that a corpulent man, labouring under typhus, hiccoughed for several days more than eighteen

hours out of the twenty-four, and it was attributed by him to a congested state of the mucous membrane of the stomach and bowels, with flatulent distension.

Again, to instance a more local origin, it is related in a recent Indian contemporary journal that a retired officer of seventy-six years of age was attacked by obstinate hiccough after an acute seizure of congestion of the liver, lasting incessantly for seventy-two hours.

This was cured by a hypodermic injection of apomorphin, sufficient to produce vomiting, which act having previously checked it, led to its prescription.

Numerous other instances could be cited here as exemplifying its presence in connection with acute inflammatory action in the viscera, and to any physician of experience it must be familiar as an occasional symptom in these affections. The above examples, however, sufficiently elucidate this form of the neurosis.

2. *Irritative*.—It will be found that some cases of persistent hiccough originate in causes less severe and pronounced than those in the preceding class, and where the primary condition is one of mere irritation, rather than an inflamed state, of the implicated viscus. Although, however, the cause is here of a more temporary and removable character, the resulting spasm may be quite as obstinate and protracted as after the most serious internal inflammation: nay, more, it will be seen that some of the most incurable forms of the neurosis have occurred in subjects who seem otherwise free from any evidence of acute illness. Such, for instance, are distension from flatus, worms, dyspepsia in some of its varieties, and the more piercing irritants of dentition, or pressure on nerve trunks; and attacks which have persisted for weeks have resulted from some of these exciting influences, while a fatal case from the latter cause is on record. Thus, De Lens relates a case of M. Bobe Moreau's, where a patient suffering from a pharyngeal abscess was attacked by hiccough, apparently from pressure on, or implication of, the pneumogastric, and where the patient's death was caused by the exhaustion and depression consequent upon the spasm. Again, Dr. Arthur Wynne Foot, of Dublin, communicated the notes of a remarkable instance to the Medical Society of the Royal College of Physicians, in which a dyspeptic boy hiccupped without intermission for twenty-six weeks, except during sleep, and averaging fourteen convulsions per minute. He had been prescribed for by eight different physicians, and declared that no

one was able to relieve him. Eventually he was cured by a prescription of Indian hemp, iodoform, and conium. It was here observed that the act of vomiting or the preparation for it deranged its rhythm—an interesting circumstance, to which we will presently allude. Similarly, Dr. Edward Liveing tells us of a case in which the hiccough, attacking a girl of twelve years of age, persisted for three years, even during sleep, but varying in its duration from ten minutes to an hour, and recurring three or four times in the day and night. As mentioned on page 20, some instances which arise in the later stages of fever are due more to the irritating distensions from flatus, to which the bowels are occasionally liable, than any definite inflammation of the intestinal tissues; and these cases without local pain, tenderness, symptomatic fever, vomiting, or melæna, probably are more frequently observed than those of the inflammatory type. Under this variety of the neurosis the dictum of John Hunter should be borne in mind, that he has seen it accompany local irritation after operations of various kinds.

3. *Specific.*—The most obscure and “Quixotic” example, however, of obstinate cases may be well described as “specific.” This they decidedly are, for, where exciting causes are difficult or impossible to find, where after a free evacuation of the bowels and removal of all states of tympanites or irritative digestive symptoms, the spasm frequently persists in rate, rhythm, and duration with undiminished intensity, no other definition will suffice. The evidences of local inflammation, or a pronounced neurotic diathesis, are here not found, while the system in which it occurs may be discovered to be almost saturated with some specific poison. This will be clearly manifest if the constitution in which it is met with be subjected to a careful scrutiny, and is frequently corroborated by the magic success of a wisely constructed specific treatment.

For instance, it has been found to persist for a considerable time after a fit of tertian ague, and was here observed by Lanzoui and Bartholin to alternate with convulsive attacks of sneezing. Again, M. Widal has recorded a remarkable instance, due apparently to the specific influence of the malarial poison. A man was admitted under his care for some passing cerebral congestion, and five or six days later, after taking alcoholic liquor in some quantity, was seized with violent hiccough, which resisted all antispasmodic treatment. It was so loud as to be heard outside the hospital, and persisted at the rate of fifty-five per minute—a most extraordinary record—all the muscles of the trunk partici-



pating in the spasm. There was dyspnœa, short inspirations, tumid condition of the face, white tongue, and loathing all kinds of food, with a small pulse of eighty. After several remedies had failed, quinine, in "pretty full" doses, was given, and speedily put an end to the disorder, after a continuous duration of nineteen days. Although M. Widal concluded that the curative effects of the quinine was distinct evidence of its malarial origin, it is not impossible that a potent cause of this particular case was also to be found in his having too freely indulged in alcohol. This alone, however, would hardly keep up the spasm for such a length of time, though an important factor in its commencement.

Then, Dr. Edward Liveing has related a case—both intermittent and periodic—in the person of a man, past middle age, who hiccupped for twelve hours twice a week for four years.

Probably few more typical examples of the "specific" variety of hiccough could be found than that cited in the beginning of this paper, and occurring in the gouty diathesis—that is, as one of the curious manifestations of the gouty poison taking the place, as it were, of the usual articular inflammation. Now, if we turn in this connection to authorities on diseases of the stomach and gout, as we approach its pathology more closely we find ourselves in a battle-field of conflicting opinions. From the time of Sydenham to the middle of the present century the expression "gout in the stomach" had been held to convey a genuine pathological condition, a true phase of the disease, actually met with in practical medicine. These were the days of the purest empiricism, when physiology—as we now know it—was in embryo, pathology consequently erroneous, while morbid anatomy was but little, if at all, investigated; the indices of medical works containing strange types of disease, while the physician or Barber-surgeon treated his patients on lines handed down from his forefathers. To this age succeeded that of more searching scientific investigators, amongst whom we find Brinton and Sir Thomas Watson declaiming against this affection as a fabrication, an impossibility, never seen in the dead house, and therefore not found in the hospital—combining to denounce it with the reproach of a "vulgar belly-ache taking rank by courtesy as 'gout in the stomach.'" More recently still we find Garrod, Fothergill, and Gairdner returning, by the aid of an enlightened physiology, to the belief of the Fathers, that the affection is once more possible—nay, clinically met with as a painful, serious, and even fatal variety, of which the case we have instanced seems

a peculiarly interesting example. In noticing hiccough as a symptom of gout in connection with vomiting and other gastric symptoms, Dr. Gairdner remarks :—" Very obstinate hiccough is a frequent attendant of this form of gout. I have seen it distress patients by day and night without any intermission for a great length of time. It often comes on after a sudden suppression of the discharge of urea and urates by the kidneys, and I regard it as an unequivocal sign of approaching death." This gloomy prognosis is also partially shared by Fothergill, who says :—" Certain it is persisting hiccough is always held to be of bad omen, though I have seen it pass away along with other grave symptoms." With reference to the state of the kidneys in the foregoing case, the urine deposited a good sediment of lithates, the only peculiarity being its intense acidity and minute quantity of albaumen. No sudden diminution of the urates was observed.

4. *Neurotic*.—That a certain proportion of these cases have an origin purely "nervous" is beyond question, and the fourth variety of this curious malady exemplifies some of its most interesting phases. By the term "nervous" we would wish to be understood the fact, that the originating influence or stimulus is one primarily acting on or through the nervous system, without any preceding state of inflammation, irritation, or blood poison. Such have been described as presenting themselves in the course of hysteria, epilepsy, after fright, shock, myelitis, or sudden mental emotion. It is therefore easily understood that, in cases arising from this species of influence, the spasms are, if possible, more erratic, curious, and unaccountable, whether it be in their violent character, strange periodicity and recurrence, their unusual persistence, or yet their fatal termination. Thus Sir Thomas Watson mentions an instance in his lectures of an "hysterical affection of the diaphragm" of a very obstinate character, in one of his hospital patients—a girl who sat all day long in her bed uttering every eight or ten seconds a loud and most discordant hiccough. Dr. Foot, of Dublin, tells us of the case of a servant maid, whose bedroom was suddenly entered by the police in the execution of a search warrant—she was so frightened and hurt by this procedure, that she was immediately seized with an uncontrollable hiccough, ran away on foot to her home, some thirty miles distant, and died within a short time of the hiccough and shock. Again, Romberg relates another case where the spasm originated in a sudden fright. It was in a healthy girl of twenty-one years of age, and throughout the case convul-

sive attacks of laryngismus stridulus alternated with the hiccough. When we presently consider its pathology more carefully, it will not be difficult to comprehend how spasmodic seizures of this nature can accompany hiccough once its nervous mechanism is set in motion. These secondary convulsions may affect either the larynx, pharynx, or œsophagus. An instance of its complication with dysphagia, and the consequent aggravation of the resulting debility and prostration, is recorded by M. Bobe Moreau, in which the patient died of the neurosis. On *post-mortem* examination, however, no light was thrown on the cause of the spasm. This is the second case observed by this physician in which the death of the patient was clearly attributed to the exhausting effects of the hiccough. Amongst other instances are those alluded to by Dr. Good, of eight and twelve days' duration, where the phenomenon was continuous, and one of even three months' persistence; whilst some others of which he speaks were of the intermitient and periodic species.

It has, again, in this variety, been observed to complicate that peculiar neurotic condition known as "abdominal pulsation"—one instance being that of a lady of forty-eight years of age, with extensive pulsation below the diaphragm, vomiting, wasting, and slight loss of power over the left side, who was ill for upwards of nine months. Thus, coupled with the name "neurotic," we would set apart such instances as we have cited, where the stimulus acts primarily on the nervous system, and where we shall find, by such a division, their individual pathology and treatment will be more vividly elucidated.

*Pathology.*—The pathology of hiccough, for a long time a debated point, is now believed to be a reflex spasm of the diaphragm with simultaneous (?) closure of the glottis, having as afferent nerve the pneumogastric, and efferents the phrenic (?) and recurrent laryngeal. Now let it be granted that this is true. In this mechanism it would seem that the diaphragm either receives the first impression, as the phrenic apparently responds more quickly than the recurrent laryngeal, or, receiving a stronger impulse, overcomes that of the recurrent nerve; for we find that frequently the diaphragm contracts before the glottis is perfectly closed, a noise being thus produced in the larynx from some air leaking into the trachea. When, however, as occasionally happens, the glottis is securely shut, no noise accompanies it, and this, of necessity, by tending to produce a potential vacuum in the thorax—a most

unnatural condition—is a greater shock to the patient ; and, therefore, we can understand how it is that a noiseless hiccough is the most distressing. We will revert to this in a moment. Whether it be in time, or strength, of current that the laryngeal is behind the phrenic, or whether the contraction of such a powerful muscle as the diaphragm overcomes that of the laryngeal muscles, even when acting in unison, whether it be the acts of inspiration or expiration which are influential in producing the noise in the semi-closed glottis, or whether, lastly, the impressions reach the diaphragm by a shorter route than by way of the cervical spine, to the entire exclusion of the phrenic nerve, are interesting points in physiology which appear open to debate. Each of these deserves a little attention. Now it is a clinical fact which I have observed time after time, and one of simple personal demonstration, that the diaphragm contracts before the laryngeal muscles. Therefore, if the phrenic be responsible for the spasm, it is at least a curious coincidence, and one foreign to the teaching of physiology, that the nervous impulse travelling along the vagus thus reaches the diaphragm before the larynx—a course full of complicated nervous connections, and of much greater length. Secondly, a muscle of such power as the diaphragm, contracting forcibly and irregularly, will, *cæteris paribus*, with a closed glottis, produce a potential vacuum in the thorax in proportion to the violence of the spasm, but that it in this way overcomes the laryngeal muscles and forces them to give way does not appear, for in such an event we should invariably have a noise produced in the larynx, which we find is not necessarily the case. It will be found from closely observing the act, that the noise is always present when the hiccough occurs during inspiration, but not if it take place in the pause or during expiration. The noise will, therefore, depend upon its relation to that particular period of respiration during which the glottis is closed. If the spasm occur during expiration no leakage will take place back into the trachea, for the outgoing column of air cannot be reversed in time, and hence no noise is produced. Similarly, during the pause, when the column of air is stationary, the glottis closes before a downward current thoroughly established, and the noise is of a very feeble character. If, however, the phenomenon take place in the course of an inspiration, when the air is descending, the immediate effect of the diaphragmatic spasm is to suddenly and violently increase its entrance, while the quickly narrowing glottis shuts off with a noise the intruding current of air.

Here the sound will be loudly produced, and, though in a certain slight measure dependent upon the intensity of the spasm, its violence will be more proportionally graduated by the volume and rate of the previous inspiratory current. Thus we find that a hiccough occurring during a strong inspiration will be productive of a loud noise, while a comparatively feeble sound accompanies that during a weak one; and this will take place with but little relation to the intensity of the action of the diaphragm. Similarly we see—however incomprehensible it may appear to the bystanders—that the louder and more intense the sound produced in the larynx, the less will be the distress to the patient; for it is the production of a potential vacuum in the thorax with a closed glottis, and without noise, that so distressingly harasses the frame.

Now, touching the nervous mechanism of this intricate subject, many interesting points present themselves.

We must not forget that gastric impressions acting on the vagus may also reach the diaphragm more directly through the connections of this nerve in a ganglion upon the vena cava, with the sympathetic and terminal filaments of the phrenic; and I find this view is supported by the testimony of Dr. Habershon, whose preparations in the museum of Guy's Hospital long since demonstrated it with precision. Formerly accepted as the *fons et origo mali*, the part played by the phrenic nerve in the production of hiccough has, I believe, been erroneously exaggerated. Romberg seems to have been the first to emphasise the fact that direct irritation of the phrenic will not produce it, basing his opinion on two cases recorded by Bright, in which organic disease, affecting the right phrenic nerve, produced other nervous disorders, but no hiccough. It seems, at the bedside, not affected at all; and watching the patient apparently supports this view. There is no disease in its course, and the cervical spine and respiratory centre are alike healthy. The breathing proceeding quietly as before, it performs its respiratory functions as regularly as it can; but it does so, as it were, with fear and trembling, for every now and then, at different and irregular intervals—it may be in the beginning, middle, or end of the pause, early or late in the inspiration, or in the first or second half of expiration, a violent convulsion of sympathetic and pneumogastric origin comes on, suddenly producing a spasm in the diaphragm, *over which the individual has no control*, and one's sympathies for the patient might be physiologically extended to his unfortunate phrenic nerve. Whether, therefore,

the phrenic does transmit this efferent impulse does not seem at all clear; and investigation is still wanting to decide by which route the current is transmitted. To my mind, from clinical observations alone, the sympathetic connections of the semilunar ganglion seem far more likely to convey the impressions than the phrenic, and for the following reasons:—

1. The diaphragm appears to contract before the laryngeal muscles, pointing to a closer and more direct communication with the gastric portion of the vagus than even the recurrent laryngeal.

2. The course of the phrenic nerve is healthy, and its respiratory function perfect.

3. The patient has no control over the spasm, while the phrenic is always subservient to one's will.

4. Remedies applied to the origin or course of the phrenic or to the cervical spine, such as blisters, ice-bags, compression, &c., &c., have no effect; while those directed to the diaphragm, stomach, and solar plexus, are generally curative.

5. The connection between the pneumogastric and phrenic by means of the third, fourth, and fifth cervical nerves are remote, and if this were the route taken the impression must travel more than double as fast on the phrenic than it does on the recurrent nerve, since it reaches the diaphragm before the larynx—conditions which are unphysiological.

6. The experiences of Romberg and Bright, which show that direct irritation of the phrenic will not produce hiccough.

7. The existence of a perfect reflex-loop between the stomach and diaphragm, which more directly answers the purpose, separate from the function of respiration and beyond control of the patient.

8. It being influenced by the acts of deglutition, or vomiting, to a greater degree than by any respiratory efforts.

During sleep its observation is a matter of the greatest interest. It is much less frequent. The impulses seem imperfectly transmitted or aborted, being only of sufficient strength to produce a true convulsion every second breath; while, finally, by the deepest sleep they are so weakened that the diaphragm may escape for four respirations the transmitted current from its afferent nerve.

As a typical example of a perfect reflex action, a true neurosis, there is, perhaps, not its equal in pathology.

The influence of the act of swallowing, which is undoubted in allaying it, is, I believe, due to the employment of the pneumogastric for this purpose as much as possible, in the mechanism of

which it is largely engaged, and thus detracting from its truly gastric function, rendering it, as it were, less sensitive to, and less capable of conveying with precision, the morbid impressions arising within the stomach. In this connection it is to be noticed, that in Dr. Foot's case, and also in that of the retired Indian officer, the act of vomiting had similarly a marked influence over its rhythm and duration.

*Prognosis.*—Indulging in precise speculations with reference to the prognosis of any particular case of persistent hiccough is, in the present state of our knowledge at least, a rather questionable procedure. A phenomenon so curious and erratic in its clinical characters can hardly be relied upon with certainty. It is not an affection which is sufficiently uniform even in its exciting causes, its accompanying diathesis, in the success of any one of its lines of treatment or its terminations, to give the physician any clue as to how a given instance will end or when it will disappear. It runs no definite course. It may subside suddenly and without apparent reason, just as it began, after a few days, or persist for weeks or even months at intervals. Each case must be judged entirely upon its own merits. The termination of the ailment will, however, whether favourable or otherwise, usually be found to depend upon the particular variety of the malady to which it belongs, and the degree of integrity of the system of the patient. The few facts we possess seem to warrant us in concluding that the "inflammatory" and "specific" varieties are, as a rule, of decidedly more serious import than those of the "irritating" or "neurotic" type.

Thus, in inflammation of the bowels, ileus, or hernia, it does not supervene until the disease has reached a considerably advanced stage, and is in these cases often the first of that serious train of symptoms which call for immediate operative interference.

In fever, when apparently the result of local inflammation in the intestines, it is of grave significance, seeing how readily such a condition may lead to perforation, and how thin the veil between life and death. If, however, severe nervous symptoms be absent, and there be no direct evidence of acute inflammation in the gastro-intestinal tract, it most frequently is caused by temporary flatus, distension, and intestinal irritation, conditions which, being not necessarily irremovable, do not lend it so serious a meaning.

When attacking the aged and debilitated, the gouty subject with imperfect kidneys, or the very highly nervous or neurotic

individual, it will also give well-founded cause of alarm; while in proportion as a local removable cause of the irritation can be "diagnosed" in an otherwise healthy individual, its significance will become less. Each case, however, must provide its own forebodings for good or ill, as our experience of this ailment is of such necessarily limited dimensions.

*Treatment.*—The treatment of obstinate hiccough will ever be a matter of extreme difficulty on account of the multiplicity of remedies. It might be advantageously divided into—(1) empirical; (2) antispasmodic; and (3) physiological.

Under the first heading would come almost every known drug or household remedy, of which the most efficacious I have found to be—very frequent acts of swallowing saliva, sips of liquids, or spoonfuls of arrowroot, so as to prolong the act of deglutition, and thus exhaust the pneumogastric nerve.

Raw whisky, vinegar, and "eau de melisse," are frequently magic, also hot brandy-punch, or a mustard blister over the epigastrium.

Numerous extraordinary and so-called "cures" might be here appended to this short list—from that of Cruveilhier, who half-drowned his cases with water poured down their throats, to Berend's remedy of leeching the feet—but it is the useless repetition of such empiricisms which has so long retarded the proper consideration of this subject, and they, therefore, are better omitted. The above-mentioned remedies are, however, extremely useful in checking it, if only for a time—during the course of a more truly scientific treatment—and I have frequently stopped the spasm with them so that the patient at least could sleep. In persistent cases, however, such measures should merely be looked upon as temporarily arresting or paralysing the gastric impressions which most likely will again manifest themselves with renewed vigour, as soon as their passing influence is exhausted.

Of antispasmodic remedies, chloral hydrate was used with success in the gouty example we have given, and might be replaced by such as nitrate of amyl, calabar bean, cocaïn, hydrocyanic acid, atropin, morphin, nicotin, conium or succinum. The physiological treatment, however, will depend upon an accurate diagnosis of the conditions under which it occurs, of the constitution in which it is met with, and of the probable nature of the irritation to which the gastric or œsophageal branches of the vagus are subjected; and since it will ever be found better practice to treat disease, however



slight the ailment, upon physiological grounds rather than to blindly follow the crude dictates of empiricism, we would recommend the careful management of persistent cases upon such a plan, under the four prevailing types in which we have demonstrated its existence, and each of which must in turn become the basis of a distinct and specific treatment.

1. *Inflammatory*.—Knowing as we do, since the time of Hippocrates, that hiccough frequently occurs in the conditions of plethora and obesity, it is no idle remark to say that bleeding or leeching will be a very efficacious remedy in suitable cases where there is evidence of pronounced inflammation. Borrichius thus cured a most obstinate case of this nature in a full-blooded individual who was much relieved by the procedure, and, albeit, we are in the closing years of the nineteenth century, the prejudice and aversion to which this remedy has been subjected might, in some instances, be relaxed, to the material benefit of many subjects of such a diathesis. Leeches to the anus will greatly relieve the hæmorrhoidal veins in visceral inflammations, and the application of six or eight to the epigastrium has frequently been of use in such complications. Combined with such general antiphlogistics, one must be guided by the particular organ implicated, as to his choice of other remedies. Hot fomentations of poppyheads, or laudanum, or a linctus of belladonna with glycerine, covered by warm poultices, and the subsequent application of a blister, constitute the external remedies which are calculated to relieve such states.

The act of vomiting has suddenly checked instances of great persistence, and apomorphin injected hypodermically has similarly permanently relieved it.

The bowels should be freely relieved, when safe, by measures suitable to each individual case. Emollient injections, or a bland mixture of glycerine and castor oil given in warm milk, as administered in fevers, being the most expedient in acute inflammatory affections of the intestine.

When symptomatic fever runs high, the administration of tincture of aconite  $m2$  in liquor ammoniæ acetatis every two hours, combined with some such antispasmodic as opium, morphin, cocain or belladonna, and the application of eight or twelve leeches, or an icebag, to the epigastrium or inflamed viscus, will most likely relieve the resulting hiccough. In that very rare disease, acute gastritis, sometimes met with in old men, or in the early stages of malignant disease, such a prescription as bismuth, carbonate of

magnesia and cocain with prussic acid, will relieve the gastric irritation. When, however, there is other evidence of acute mechanical obstruction of the bowels, when ileus is likely or imminent, it is the indication for immediate operative interference. It should not, however, here be waited for, since many fatal obstructions have never presented it.

2. *Irritative*.—When a case of persistent hiccough presents itself unaccompanied by any visceral inflammation, high fever, or other acute illness, a careful examination should be made of every organ to seek some lurking cause of the irritation. Though such strange affections as dentition or pharyngeal abscess have produced it in this form, its source will most frequently be found in the digestive system. Particular attention should be paid to the conditions of health prior to the onset of the hiccough. There is always a definite and tangible origin in these cases. Something brought it on, and still keeps it up, and unless this factor can be recognised by the physician our treatment will be mainly empirical. In conditions of flatus and distension, when this appears the sole ailment, a free purge of castor-oil with turpentine will effectually clear the “*primæ viæ*,” and would be a suitable antecedent to sedative and carminative remedies. If the flatus continues, a pill of carbolic acid, nux vomica, and iodoform might be prescribed twice a day, with such a mixture as the following, every two or three hours, as recommended by Dr. T. W. Allen:—

R. Olei succini, ʒss.  
Liquor potassæ, ʒj.  
Tinct. camph. co., ʒiv.  
Mist. acaciæ, ʒij.  
Aquæ menth. pip. ad, ʒvj.

One-sixth part every two hours.

Two doses usually succeed. Still failing relief, a powder, as prescribed in the preceding class, of bismuth, magnesia, and cocain, should be taken in milk every third or fourth hour; or one composed of six grains of musk, with bicarbonate of soda and magnesia, which has been recently recorded as successful in a persistent case by Dr. Rattray,

3. *Specific*.—In no class of cases of this spasmodic affection will empirical remedies prove more futile than this. Useful, however, they frequently are, and will check it suddenly and repeatedly, but rarely permanently. Here a physiological basis for our treatment is, if possible, more necessary. One should minutely

examine the system with caution, and having become acquainted, as far as possible, with the functional capacity of each organ, prescribe rather for the general condition of the patient than pay any special attention to the hiccough. It is merely a symptom of some definite, though obscure, irritation, and we should find it. For the moment, however, discard it; and after your treatment has been well directed to the relief of any local irritation or constitutional diathesis, throw into your prescription some carefully selected sedative or antispasmodic.

Thus, in the obstinate gouty instance alluded to, the combination of bromide, iodide, and bicarbonate of potassium, with chloral, successfully removed it. Quinine has cured a so-called malarial variety; and other cachexiæ will be found equally amenable to a carefully constructed and systematic treatment.

4. *Neurotic*.—In this last variety of persistent hiccough the most varied remedies have been successful, though it has sometimes continued unrelieved until the death of the patient from exhaustion. Jaborandi and pilocarpine appear to have a specific influence over this form of the neurosis. They have frequently checked it permanently.

Nobel (*Centralblatt für klinische Medicin*, No. 32, 1892) refers to the marked benefit derived from the infusion of jaborandi administered to a man suffering from influenza. It produced some slight cyanosis, but appeared to have no further ill effect upon the heart. He declares it is still unknown to what ingredient its efficacy is due. Stiller, in the same journal, No. 42, states that he has frequently prescribed pilocarpine in doses of 10 minims of a 1 per cent. solution, three or four times a day, in hiccough of a nervous origin, and believes it is the best remedy known for this condition. It is, he says, unsuitable to attacks of the acute inflammatory type, and in hysterical instances is not so beneficial as in other forms. To pilocarpine he entirely attributes the specific influence of jaborandi. Dr. De Havilland Hall subsequently relates the success of one-tenth of a grain of pilocarpine injected hypodermically three times a day, when other remedies had failed. The hiccough, which had been unremitting for a fortnight, at once lessened, and soon ceased entirely.

The various forms of electricity should, in obstinate cases of this species, be tried. Laemmec cured nervous instances with "magnetic" plates applied to the epigastrium and opposite region of the spine, and Dr. Henry Kennedy has related a cure by a three

weeks' course, in a persistent example of seven weeks. Apart from the more strictly local, nervous spasm, the general neurotic condition of these patients is frequently benefited by such treatment, and it should not be forgotten; while herewith should be combined as much of that useful adjunct, known as the "*Medicina Mentis*," as the operator can influentially employ. *Asafœtida*, combined with some of the carminatives or sedatives we have previously spoken of, has also been of great service. Ice to the epigastrium, blisters, and—recollecting in connection with the physiology of the pneumogastric nerve that cold shock has a marked influence over it, both in its pulmonary and gastric connections—in cases resulting from fright, shock, or sudden mental emotions, cold shower baths would be well calculated to arrest a spasm of this nature.

In this connection two interesting remedies remain to be noticed. They are—pressure on nerve trunks and hypnotism. It was recently recorded that a hiccough of an obstinate character supervened in the case of a man who struck his head against a wall with some violence. Several remedies failed to relieve him, and his surgeon efficiently arrested it by pressing for some minutes upon his supraorbital nerve, with sufficient force to give him great pain. This has also been tried by M. Leloir, who states (*Revue des Malad. de l'Enfant*—March, 1892) that he stopped hiccough, in a child of twelve, by digital pressure for three minutes on the phrenic nerve, between the two attachments of the sterno-mastoid. He says he has since used the method in a large number of cases, and always with success: in some for a few seconds, and others a few minutes. Now, can M. Leloir, with such exactitude, confine his pressure to one nerve in such a region as the neck? Can he prove to us that his digital compression did not equally affect the child's pneumogastric, or even the superior and inferior cardiac nerves, which are contiguous? We do not, however, doubt his cures, but the laying of so much stress upon the phrenic nerve in particular, in the pathology of these cases, seems to us, after a very careful and unprejudiced inquiry into the phenomenon, to be at least an assumption of facts which have not been proved.

The writer's experience of the phrenic nerve is, that it is misleading, that it has much less to do with the spasm than has been hitherto supposed, and that—granted even that it has been successful—pressure upon it will be scarcely more efficacious than upon others, even so remote as the supraorbital, the pneumogastric probably excepted. With regard to hypnotism, I believe it has

never yet been tried, but from the undoubted influence, which we can now no longer veil with scepticism, that has been demonstrated to lie in the hands and the minds of skilled "opérateurs," it might with all propriety be practised. Sleeplessness, pain, neuralgias, functional paralysis, hysterical crises, and writer's cramp, have alike succumbed to this psychological treatment, and if carried out with the success of Liebault or Bernheim of Nancy, of Lays at La Charité, or that of Voisin and Guinon in M. Charcot's clinique at the Salpêtrière, it constitutes a remedy exceedingly likely to remove, from a neurotic individual, so weird a remnant of fright or shock.

In concluding this interesting subject for the present, we would merely state that whatever may appear to the reader new or strange in the foregoing remarks has been entirely derived from a careful and original effort to fathom this mystery of medicine—this relic of quackery. From its study *de novo*, and at the bedside, such conclusions have been arrived at. Such light only has been gathered from others as subsequently appeared to illumine the views we have ourselves seen; and I firmly believe that if an independent observer, unbiassed by any preconceived notions of the ailment, again undertakes the study of this strange malady, his observations, if accurate, will similarly lead him step by step into the path we have trodden.

That these pages may help to elucidate a most distressing condition, an awful malady, and rescue it from the domain of quackery and empiricism, is the fervent wish of the writer; while if others, in their observations and treatment of similar seizures, be guided even a few steps, by such a spark, through the darkness and obscurity that still surround it, his pen will not have been taken up entirely in vain.

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ART. IV.—*Note on Psoriasis Palmaris*. By H. S. PURDON, M.D.;  
Physician, Belfast Skin Hospital.

PSORIASIS of the hands and soles of the feet is a very tedious as well as troublesome complaint, often resisting various plans of treatment. The disease is frequently, especially when the palm of only one hand or only one foot is attacked, due to syphilis. However, as far as my experience goes, the non-syphilitic forms of psoriasis palmaris are the most difficult to "cure." In the former variety, "Donovan's solution" seems the most suitable medicine, and which is useless in the non-syphilitic variety, especially if the nails are involved.

It is necessary in the treatment of psoriasis palmaris to combine both internal as well as local treatment, and one of the most useful combinations is that introduced many years ago by the late Dr. Neligan of Dublin—viz., iodine, gr. 4; iodide of potassium, gr. 16; Fowler's solution of arsenic, gt. 80; syrup of orange, ʒ ii. The dose—a teaspoonful twice or thrice daily.

The thyroid tabloids in ordinary cases of psoriasis, with the exception of one case out of ten, have in my hands failed, some of the patients being made much worse by their use—that is, as far as the cutaneous eruption was concerned.

However, it is to the local treatment I wish to direct attention. The point is to exclude the air from diseased places, and keep our remedy constantly applied.

When the skin is much infiltrated I have found a preparation, that may be called an ethereal tincture of salicylic acid, useful not only in chronic infiltrated psoriasis palmaris, but also in corns and callosities. It is made with—rectified spirits of wine, ʒ v.; sulphuric ether, 3 iii.; mix, then add gum mastich, gr. xxv.; when dissolved, further add one drachm of salicylic acid. This forms an excellent varnish, and is similar to the old-fashioned gutta-percha dissolved in chloroform. Moreover, in place of the salicylic acid, “goa powder” can be substituted in whatever proportion is thought necessary. If irritation is caused by its use, a cold starch poultice applied for a few hours allays the same. For washing the hands, in place of soap, I think quillaia bark beneficial, used with very hot water. The fluid extract can be employed mixed with a small quantity of coal tar (liq. carbonis detergens), and is thus similar to a French proprietary preparation called “coal-tar saporimé le bœuf.”

One of the worst cases of psoriasis, that was under treatment for months, cured himself with “scurvy grass” (*Cochlearia officinalis*), taken internally, whilst a poultice of same was applied to the hands. Its diuretic properties were likely beneficial, and the prolonged moisture, when locally applied to the hand, was useful in softening infiltrated skin.

Another herb is the “Galium aparine,” commonly called “robin run-the-hedge,” which has in various places a local reputation in cutaneous lesions. Surgeon-Major Orwin, in the *British Medical Journal*, some years since mentioned a case of psoriasis palmaris, “cured” in three weeks by using poultices of this herb, and also taken as an internal remedy. Various other drugs during twelve months had been used—such as arsenic, chrysophanic acid, and tar ointments, &c.—without any good results.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*On Preservation of Health in India.* By Sir J. FAYRER, K.C.S.I., M.D., F.R.S.; President of Medical Board at the India Office. London: Macmillan & Co. 1894. Pp. 51.

SIR JOSEPH FAYRER has reprinted a lecture delivered to the Cooper's Hill students, and if these young gentlemen are disposed to lead their Indian lives according to book, they cannot have a safer guide. This minuscular volume can easily be carried in a small pocket made for the purpose, and consulted before work and play, and meals, and sleep; and we trust that the caution given on p. 34 will prove unnecessary—"Over-anxiety about health must be avoided. A proper amount of precaution is right, but coddling and anticipating disease is much to be deprecated. Nothing is worse for a man in unhealthy places, or in times of epidemic disease, than a state of nervous expectancy and apprehension."

Salvation Army people and other missionaries will do well to bear in mind that "it is not expedient to imitate too closely the natives of the country in the character of their food. The stomach of the European will no more obtain from the diet of a Hindoo all that is necessary for nutrition than it could in other circumstances from the blubber that delights whilst it nourishes an Esquimo." We leave Weissman to deal with the dictum which follows, asserting the transmission of acquired faculties:—"Habit in these things becomes hereditary." The instructions for the extemporary management of snake-bite (p. 49) are excellent. Dr. Mueller's strychnia treatment receives tepid approval—a hypodermic injection of 10 to 15 drops of the liquor strychninae "may be given." It seems to us unquestionable that Dr. Mueller's method has been most successful in the treatment of Australian snake-bites. We do not yet know how far the venom of Indian snakes resembles or differs from the Australian, and experience and experiment alone can tell us whether strychnia is antidotal in India. We do know that in India the symptoms following the bites of some thanato-

phidia differ remarkably from the effects of the bites of other species or genera, and we may presume that the antidotes may differ conformably.

Sir Joseph lays down that "it is very desirable that Indian life should commence, if possible, in the cold season." It is; and it is equally desirable that an official returning to India after leave to Europe on medical certificate should resume his work in the cold season. Why then was it decreed, while Sir Joseph Fayrer ruled in matters medical at the India Office, that an invalid should obtain no more than one year's furlough on medical certificate, extension being obtainable only by a journey—sometimes long and inconveniently expensive—to London, to appear before the India Office Board? An officer, under this order, whose health required him to leave India just before the hot season set in, instead of arriving, as is "desirable," in the cold season, was compelled to take up the climate where he had left it a year before.

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*Atlas of Clinical Medicine.* By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S., Edin.; Assistant-Physician to the Edinburgh Royal Infirmary, &c. Volume III., Part I. Edinburgh: T. & A. Constable, University Press. 1894. Folio. Pp. 48.

TRULY some men seem to have an insatiable appetite for downright hard literary work. In our own profession, the names of J. S. Billings, in the United States of America, and of B. W. Richardson and Byrom Bramwell, in our own country, may well serve as typical examples. Each of these three well-known men is the sole writer of a first-class medical periodical—the *Index Medicus*, the *Asclepiad*, and the *Atlas of Clinical Medicine* bear eloquent testimony to the indefatigable industry and powers of research of their several authors.

The first part of the third volume of the last-named work now lies before us. It opens with an address delivered before the Dermatological Society of Great Britain and Ireland, on May 31, 1894, on the Thyroid Treatment of Skin Diseases. During a visit to Edinburgh in the summer of 1893, we had an opportunity of seeing several cases of psoriasis which were under this treatment in Dr. Bramwell's wards in the Royal Infirmary, and certainly the beneficial results were surprising in some instances. In others,



the treatment did not seem to produce any beneficial effect at all, or it was only partially successful. The elaborate paper in the present part of the *Atlas of Clinical Medicine* embodies full notes of twenty cases of psoriasis, personally treated by Dr. Bramwell with thyroid extract. The total result of his experience is to show that the preparation given by the mouth is of great value in a considerable proportion of cases of psoriasis.

The other skin affections subjected to the thyroid treatment by Dr. Bramwell were—lupus (5 cases), result—"considerable improvement;" ichthyosis (1 case), result—"temporary improvement;" exfoliative dermatitis (1 case), "marked improvement;" acute eczema (a few cases), "the remedy is perhaps more likely to do harm than good;" chronic eczema (2 cases), in one case "no benefit," in the other, "the most marked improvement;" pemphigus (1 case), result—"doubtful;" alopecia universalis (1 case), "beneficial" result.

This article is illustrated by a series of most striking plates reproduced from photographs. The improvement caused by the treatment is certainly astonishing as portrayed in these plates.

The second monograph in this fasciculus of the *Atlas* is on "Poliomyelitis anterior acuta." Two plates accompany it. The first of these shows the pathological appearances in five transverse sections of the spinal cord in cases of the disease. This plate also contains a drawing (Fig. 3) of a portion of the anterior horn of grey matter in a case of infantile paralysis, showing, by means of staining with osmic acid and farrant, the minute structure of the lesion highly magnified. The second plate gives illustrations of three cases of the disease. One of these is a drawing of severe acute anterior poliomyelitis in a very young child, whose lower extremities are completely paralysed, hanging like useless appendages, with the feet everted. The drawing is an exact copy of an instantaneous photograph which was taken while the child was struggling.

The third and last article is on a remarkable case of cancer of the breasts, spleen, and other organs and tissues (including the dura mater). A detailed report upon the microscopical condition of the different organs, by Mr. R. F. C. Leith, F.R.C.P. Edin. (Pathologist to the Royal Infirmary, Edinburgh, and Lecturer on Pathology in the Edinburgh School of Medicine), accompanies this unique case. The diffuse cancerous infiltration of the dura mater led to total loss of vision and paralysis of the ocular nerve by com-

pressing the nerves as they passed from the cranial cavity into the orbit.

The author's "remarks" on this very instructive case are thoughtful and extremely interesting, bearing as they do on the general question of the dissemination of cancerous infection throughout the system.

We are sorry to have to call attention to some literary blemishes, of perpetrating which we thought the author incapable. "Neither of these are good terms" (page 26), should, of course, read—"Neither of these is a good term." "*Æsophagus*" appears more than once for "*œsophagus*." "The liver is probably the commonest sight of secondary cancer" (page 47)—this is, no doubt, a printer's error.

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*Précis de Clinique Thérapeutique.* Par le DR. A. F. PLICQUE, Médecin Adjoint à la Compagnie du Nord; Ancien Interne des Hôpitaux de Paris; Lauréat de la Faculté de Médecine; Lauréat des Hôpitaux. Paris: G. Steinheil, Editeur. 1894.

THE brief summary of the ætiology, history, and treatment of the many diseases of which the book treats calls for no extended notice.

As might be expected, diphtheria and typhoid fever occupy a considerable space of the first of the seven parts into which the volume is divided. The author, however, breaks no new ground, and contributes nothing fresh to the literature of medicine; nevertheless, a study of the views of French writers on medicine, especially therapeutics, tends to shake the ordinary practitioner out of his usual groove, to enlarge his views and give suggestions in therapeutics which occasionally are useful.

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*A Collection of the Published Writings of William W. Gull, Bart., M.D., F.R.C.P., Physician to Guy's Hospital.* Edited and arranged by THEODORE DYKE ACLAND, M.D., Physician to St. Thomas's Hospital. Medical Papers. London: The New Sydenham Society. 1894. Pp. 600.

IN this volume are collected all the important papers on medical topics by the late Sir William Gull, written between the years 1847 and 1888. The theories put forward in many of these papers, especially the earlier ones, are no longer generally accepted;

nevertheless the writings are so full of accurate clinical observation that they will well repay perusal.

The most important papers are those on Abscess of the Brain, illustrated with notes of 76 cases; several papers on Paraplegia; a paper on a Cretinoid State in Adult Women (*i.e.*, Myxœdema); papers on Arterio-capillary Fibrosis and the connection between Renal and Vascular Changes; and some interesting papers on Anæsthetics. It is curious to think that as lately as 1847 a case of chloroform anæsthesia was such a rarity in London as to call forth a descriptive letter in the *London Medical Gazette* from Sir W. Gull.

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*Index of Medicine: a Manual for the Use of Senior Students and Others.* By SEYMOUR TAYLOR, M.D., M.R.C.P., Senior Assistant Physician to the West London Hospital. London: Smith, Elder, & Co. 1894. Pp. 794.

THIS work is intended to be a companion volume to Keetley's well-known "Index of Surgery." The alphabetical arrangement of that work has, however, been departed from, as Dr. Taylor holds—and, we think, rightly—that it is more convenient for students to have each group of diseases—as fevers, diseases of the respiratory organs—arranged together. This book, therefore, though called an "Index," is really a moderately short work on Practice of Medicine.

On the whole, this book is well and clearly written. Descriptions of symptoms, pathology, &c., though necessarily brief, are clear. With regard to the sections on treatment, we think that rather more precise directions as to size and frequency of dose might advantageously have been introduced; to the student such details are often necessary.

The section on the Nervous System is illustrated with a number of useful and instructive diagrams, which explain the anatomy of the nervous system; several tables have also been introduced into the work.

We regret to find that in many cases very little prominence is given to the part played by micro-organisms in the causation of disease—thus, in the account of Inflammation and Suppuration, except for a general reference, under the heading *Causation*, to microbes and poisons, they are not mentioned. We must also emphatically dissent from Dr. Taylor's statement that, as a rule,

the louder the cardiac murmur the greater is the organic change.

The printing and publishing leave nothing to be desired. Those who desire a work which will, within a short compass, contain the main facts of medicine, will, we believe, find Dr. Seymour Taylor's "Index" to thoroughly meet their wishes.

*Index-Catalogue of the Library of the Surgeon-General's Office, United States Army.* Authors and Subjects. Vol. XV. Universidad-Vzoroff. Washington: Government Printing Office. 1894. Folio. Pp. 842.

The fifteenth volume of this immense work brings us down to the end of the entries under the letter "V." It is presumably the penultimate volume. It includes 6,152 author-titles, representing 3,312 volumes and 4,235 pamphlets. It also includes 8,596 subject-titles of separate books and pamphlets, and 35,667 titles of articles in periodicals.

In the fifteen volumes of the Index-Catalogue published up to date there are 163,605 author-titles, representing 80,806 volumes, and 139,891 pamphlets. There are also 160,245 subject-titles of separate books and pamphlets, as well as 497,832 titles of articles in periodicals.

Again we have to congratulate Dr. John S. Billings, Surgeon, U. S. Army, for the successful accomplishment of his gigantic and most useful undertaking.

*Cloudland: a Study on the Structure and Characters of Clouds*  
By REV. W. CLEMENT LEY, M.A., F.R. Met. Soc. With numerous coloured Plates, Photographs, Charts and Diagrams.  
London: Edward Stanford. 1894. 8vo. Pp. 208.

Two thoughts—one gay, one grave—flit across our mind as we open the pages of this book. The first is, how thankful we should be that the word "Nephology" was discarded in favour of the more homely yet poetic term "Cloudland," as the title of the work. The second is the sad reflection that the health of the talented author, the Rev. W. Clement Ley, broke down before he had completed this work—the Preface is written and signed by "C. H. Ley," who incidentally refers to the author's "long illness" and "ill-health," A born student of meteorology, in all

its branches, Clement Ley's life-work lay in a profound study—extending over very many years—of clouds, their classification, the theories of their formation, and kindred subjects. These “inaccessible and intangible objects,” which have been correctly defined by Dickson as “portions of the atmosphere which, from natural causes, have become temporarily visible,” must of necessity attract the attention of every lover of nature, of the poet, and of the artist. Their endless variety, ever-changing form, gorgeous colouring, and at times stupendous size and awe-inspiring gloom—all appeal to the imagination of the observer; while the study of their origin calls forth his highest scientific powers.

Some one may object that such a book can scarcely claim recognition at the hands of a medical reviewer. We entertain no such narrow-minded view. Probably no other body of men have such unrivalled opportunities for studying and admiring the ever-changing glories of the sky as members of the medical profession, hundreds of whom spend many hours of every day in driving hither and thither through the open country. To them Clement Ley's profound studies of cloudland will come as a grateful and instructive foil to their graver pursuits. But, again, every thoughtful physician must have learned the far-reaching influence upon health—both mental and physical—exercised by weather, and particularly by the presence or absence of clouds.

We offer, then, no apology for drawing the attention of our readers to this book. Its wide scope and originality may be inferred from a mere enumeration of the topics discussed in the ten chapters of which it is made up. These are—the atmosphere; a classification, nomenclature, and description of clouds; their characters and contrasts—clouds of radiation, of “interfret,” of inversion, of inclination, theory of atmospheric currents; prevailing winds of the globe; cyclones and anticyclones and their cloud-forms; prevalent cloud-forms of the globe, and practical suggestions.

The author's classification of clouds will be found at pages 26 and 27. It includes seventeen primary forms and nine varieties. The nomenclature is novel and differs materially from the accepted terminologies of Abercromby and Hildebrandsson (Munich, 1891), and of Maunucci (Rome, 1894), both of which are based on the classical arrangement of cloud-forms proposed by Mr. Luke Howard, F.R.S., in his “*Essay on the Modifications of Clouds*,” first published in 1803, and re-issued as a third edition by Mr. John

Churchill, of London, in 1865. All these classifications had reference to the shape of the several forms of cloud; Clement Ley's classification is based on the different modes of their formation. Its two faults are its complexity and its prolixity.

One of the most attractive features in the work is the number and artistic excellence of the illustrations. In the first place, there are six coloured plates, reproduced from water-colour sketches made by the author some years ago. Then there is a series of eight beautiful photographs of cloud-effects taken by Mr. Arthur Clayden, which have been most skilfully reproduced. Again, there are four coloured charts showing, respectively, the mean barometrical pressure and prevailing winds of the globe, in both January and July, a cyclone over the North Atlantic on July 10, 1883, and a cyclone over the Arabian Sea on June 9, 1885. Lastly, ten diagrams illustrate cloud-formation and movements, and air-currents in a typical cyclone.

The "setting" of the work is beyond all praise and reflects the greatest credit on the publisher, Mr. Edward Stanford, of 26 and 27 Cockspur-street, Charing-cross, London, S.W.

*The Nurseries of Cholera: its Diffusion and Extinction. An Address delivered before the Section of Public Medicine of the British Medical Association at Newcastle, August, 1893; with an Appendix of the International Cholera Convention of Paris, 1894, and on the Mecca Pilgrimage.* By ERNEST HART, D.C.L.; Chairman of the Parliamentary Bills Committee of the British Medical Association; Editor of the *British Medical Journal*. With five full-page Illustrations. London: Smith, Elder & Co. 1894. 8vo. Pp. 35.

WE are glad to see a reprint of Dr. Hart's address, and of his subsequent papers on the subject of cholera. It will be read with interest and profit even by Indian officers, some few of whom—we speak with diffidence—may (perhaps) know nearly as much about cholera as the author, though this would not be inferred from the alone-I-did-it style of these pages. We can readily pardon Dr. Hart's harmless delusion—that no one discovered or preached that cholera was communicable, and mainly communicated, by drinking-water “until that I, Deborah, arose, I arose a mother in Israel.” He has done good work in advocating and propagating <sup>1</sup>healthful views upon the ætiology of cholera

epidemics, and the true methods of prevention. He slays the slain in wasting space on arguing against what Dr. Cuninghame would have called his opinions on the communication of the disease; but his mistake is natural. That officer's position as sanitary adviser to the Government of India gave a factitious importance to his fancies, which was productive of some transient mischief, and which led to some pardonable misapprehension as to the views of Indian sanitary authorities. None of these, so far as we know, accepted Dr. Cuninghame's doctrines—except at the point of the bayonet, which his official position placed in his hands.

The illustrations of this pamphlet are graphic, and add considerably to the interest of the reprint.

*Deaf-Mutism*. By HOLGER MYGIND, M.D. Copenhagen. London: F. J. REBMAN. 1894. Crown 8vo.

THE author's aim was the production of an exhaustive and systematically arranged work on deaf-mutism. He has been fairly successful. Commencing with the earliest Greek writers he has brought together a goodly collection of old world literature; but he seems to have relaxed his efforts when he came to the Dark Ages—in which Dark Ages, strangely enough, many of the blessings of modern civilisation had their genesis. We find no mention of John de Beverley, who died in 741, who in 704 founded a college for the training in oral instruction of deaf mutes. Yet from that college went forth knowledge of what could be done for these apparently helpless creatures that brought forth "*Reduction de las letras, y arte para enseñar a hablar los mudos*" of Juan Pablo Bonet, nearly 1,000 years later; neither do we find mention of Rodolphus Agricola, the famous pupil of Thomas à Kempis.

Fabricius, the tutor of the great Harvey, in 1624 published his "*De Locutione*," and the Earl of Verulam published his pamphlet on "*The Motions of the Tongue, Lips, Throat, and Palate in Speaking*" about the same time—both authors are ignored.

Passing from the historical to the scientific portion of the book we find the author at his best. He defines deaf-mutism as being the state in "which the hearing is positively *nil*, and in which there is no power of speech, unless it be acquired by a special method of instruction." It is to be regretted that he does not consider with any fulness the endemic form of deaf-mutism common

in Switzerland, but confined his work to the study of congenital deafness and that resulting from acquired deafness.

What we have said will suffice to give the reader some idea of the scope and aim of the book, and we may only add that the account of pathological changes giving rise to deafness is a clear though necessarily short account, but withal well worth reading.

*Vade-Mecum du Praticien: Diagnostic et Traitement des Maladies Internes.* Par le DR. FERNAND ROUX, Mention Honorable de l'Institut Recompense de l'Académie (Prix Desportes); Lauréat de la Société Médico-Pratique et de la Société de Médecine. Paris: G. Steinheil, Editeur. 1894.

IN a small octavo volume of 391 pages the author has succeeded in giving a clear, brief notice of the diseases which commonly come under the notice of the physician. The arrangement is alphabetical. Numerous formulæ are given, many of which might be studied with advantage by British physicians—for instance, we might learn to use aconite more freely in diseases of childhood, and familiarise ourselves with the flavouring agents which French physicians use in such variety. The book is written for students, and the author makes no claim to originality.

*Gout, and its Relations to Diseases of the Liver and Kidneys.* By ROBSON ROOSE, M.D., LL.D., F.C.S.; Fellow of the Royal College of Physicians in Edinburgh; Member of the Royal College of Surgeons of England; Author of "Wear and Tear of London Life," "Nerve Prostration," "Infection and Disinfection." Seventh Edition. London: H. K. Lewis. 1894.

WHEN a medical book has reached a seventh edition it has proven its general acceptance by the profession. It is, however, apt to fall behind the ever-advancing wave of scientific progress unless the author himself keeps abreast of the times, and by careful revision keeps the book thoroughly written up to the most advanced line of scientific thought on the subject of which it treats.

Dr. Roose is not only abreast of the times, but he has subjected the book to a thorough revision since the appearance of the last edition; and he has discussed in fuller detail various manifestations of gout which had been previously dealt with in a few sentences.



Visceral and cutaneous affections, as irregular manifestations of gout, and the hepatic and renal disorders connected with the disease, are treated very fully, and are particularly valuable contributions to the subject; gout, like syphilis, assuming so many forms and giving rise to so many diverse troubles, that the value of a good account of its mimicry of other forms of disease can hardly be over-estimated.

Chapter VII. deals with the therapeutics of gout—dietetic and medicinal.

Exercise, baths, habit of life, and drugs are reviewed by the author, who gives a large number of formulæ which from experience he has found of benefit. Piperazine and all the other new drugs recommended for the gouty are discussed in this excellent monograph.

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*Diseases of the Nose and Throat.* By F. DE HAVILLAND HALL, M.D., F.R.C.P. Lond.; Physician to Out-patients, and in charge of the Throat Department at the Westminster Hospital; Joint Lecturer on the Principles and Practice of Medicine at the Westminster Hospital Medical School. With two coloured Plates and fifty-nine Illustrations. London: H. K. Lewis. 1894.

THIS volume is one of the excellent manuals published by the Messrs. Lewis, and it may be said to have had its genesis in the friendship of the author and the editor of the *Centralblatt für Laryngologie und Rhinologie*, of which friendship the author tells in the preface. The excuse for the appearance of the book is that the author knows "of no work of moderate size which gives anything like a complete account of these diseases." There is, however, no occasion for the excuse, and as far as the present book goes the author leaves the same ground for excuse which he found. A complete account of the diseases of the nose and throat cannot be given in few words. The author has, however, produced a good, readable, intelligible book, well suited for general practitioners and students going in for examination. The volume is divided into three almost equal parts.

Part I. deals with diseases of the nose, accessory sinuses, and naso-pharynx, and in 168 pages the subject is so tersely and clearly dealt with that in this section the work may be said to be complete.

Part II.—Diseases of the pharynx, though excellently written,

does not treat of pharyngitis with sufficient fulness. Pharyngitis and tonsillitis are the more common throat affections, and we think they are deserving of more attention than the author has given them.

Part III.—Diseases of the larynx is well done—full of practical hints—and we are glad to see so much space given to the varieties of spasm, which in children is one of the most alarming conditions which afflict childhood. An appendix of useful formulæ complete this useful and reliable book.

*Inebriety or Narcomania: Its Ætiology, Pathology, Treatment, and Jurisprudence.* By NORMAN KERR, M.D., F.L.S.; Fellow of the Medical Society of London; President of the Society for the Study of Inebriety; Chairman, British Medical Association Inebriates' Legislation Committee; Consulting Physician, Dalrymple Home for the Treatment of Inebriety; Vice-President, International Congress of Medical Jurisprudence; Corresponding Member, Medico-Legal Society of New York; Corresponding Secretary, American Association for the Study and Cure of Inebriety. Third Edition. London: H. K. Lewis. 1894.

DR. NORMAN KERR is a well-known advocate of teetotalism, and amongst the many who urge pledges and legal restriction against the consumption of alcohol he is one of the ablest. The present work has reached its third edition within a comparatively short time, and now courts public favour in a greatly enlarged and improved form.

With much of what the author puts forward we agree; like him we desire that drunkenness should be an unknown evil; that men should become sober, cleanly, decent; that drunkenness unfits a man for work, physical or mental; and that the misery it engenders spreads from the individual to all those within his family circle; that drunkenness is too often the parent of crime; that delirium tremens, epilepsy, paralysis, and other diseases follow in its track; and that Dr. N. Kerr is a firm believer in the efficiency of the methods he recommends to the profession and the public.

The book, besides its graphic account of the horrors of drink, tells of the evils of opium, ether, chloroform, and antipyrin.

As a storehouse of facts on all these questions the book is valuable, and for the summarised account it gives on home

and foreign legislation on alcoholism, and on all these topics we recommend the book as a valuable work of reference. But we object, strongly object, to the principle of the book, to some of its conclusions, and to the disproportionate prominence given to facts in reference to the injurious effects of alcohol.

We object to grandmotherly legislation and coercion. The liberty of the subject is sufficiently restricted already, and the patience with which millions of law-respecting citizens tolerate the curtailment of their personal liberty lest a weak brother should offend is a marvellous testimony to our inborn respect for law.

Restrictions and pledges cannot create an Utopia. Let us, for example, take the author's favourite illustration—the stamping out of ether-drinking in the County Tyrone. What are the facts of the case? Father Mathew began in 1845 his great crusade against drunkenness; and in town after town collected, as all popular preachers do, large audiences. To his appeal to take the teetotal pledge the more emotional of his hearers first respond, and soon the whole multitude, overcome by a tide of emotion, follow suit; and thus, from Cork to Belfast, Ireland is made a sober kingdom. But the peasant took neither to tea, coffee, nor bovril. At fairs, wakes, and dances he found the so-called cordials, consisting of raw-corn whisky and flavoured syrup in the south; and, in the thrifty north, methyated ether, was his panacea for trouble.

Thus we find the effect of the pledge was cordial-drinking—of raw whisky and flavouring ethers in the south, and methyated ether in the north—instead of the comparatively healthy whisky and water of the past.

Ether comes to be scheduled amongst poisons, and the consumption falls off 90 per cent. Dr. Kerr is correspondingly happy; we do not begrudge him the happiness, but we just ask him, What is there to prevent the ether-drinker turning his attention to spiritus ætheris nitrosi? And if that be scheduled, where is the scheduling to stop? Are we to christen publicans “drug-gists?” And are we, as in Maine, U.S.A., to call on our pharmaceutical chemist for a “mint pick-me-up” instead of going to our hotel or public-house?

It is usual to hear the other side in all discussions and all tribunals, except those of Torquemada and Teetotalism. Even in the darkness of the Middle Ages the devil's advocate was

allowed a hearing; but for alcohol the teetotaller is deaf to all that might diminish its deviltry. Monomaniacal on his fad, he would, were it possible, efface Cana of Galilee from the sacred page and forbid Timothy the wine a Paul prescribed.

Reform never came from faddists. Their exaggerations disgust the unbiassed. The work of making Great Britain and Ireland a sober nation is the work of the broad-minded common-sense people in our midst.

When the battle of life is made less trying by the exercise of Christian charity; when the hovels of the poor are changed into habitations worthy to be the dwelling-places of human beings; when man learns that humanity is a brotherhood and that truth and honour are more dear than social distinction and wealth; and when the pessimism of teetotal faddists is forgotten—then, and then only, will man cease to crave for “wine that maketh glad the heart of man;” for then sorrow and trouble shall have ceased to afflict.

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*Bulletin of the American Academy of Medicine.* No. 23. October, 1894. Easton, Pennsylvania.

THE American Academy of Medicine was founded for the promotion of medical education, but it has enlarged its scope to the entire field of “medical sociology.” Its organ, the *Bulletin*, is published twice a month, and the profits from the publication appear to be the only, but sufficient, source of revenue, no subscription to the Academy itself being exacted. It is a peripatetic institution. The nineteenth annual meeting was held at Jefferson, New Hampshire, in August last, and next year’s gathering is fixed for Baltimore, in May. This number of the *Bulletin*, for which we are indebted to the courtesy of the Secretary, contains the Transactions of the meeting.

There are thirteen papers in the number, discussing subjects which are described on the title-page as “some problems pertaining to the medico-social relations of the Dependents, Defectives, and Delinquents.” The valedictory Address of the outgoing President, Dr. George M. Gould, of Philadelphia, is devoted to a most important subject—“Charity Organisation and Medicine”—a subject of universal and pressing interest. The Academy, on the recommendation of its Council, passed the following resolution:—

"Whereas, the abuse of medical charities, to which the attention of the American Academy has been so forcibly drawn by the President in his opening Address, is an evil to which the medical profession should not close its eyes; therefore, *Resolved*—that the participation of physicians in the movement towards charity organisation is earnestly urged as the most efficient means of limiting the indiscriminate and injurious gratuitous bestowment of medical services."

No city stands in such sore need of charity organisation as our own. In none is more money wasted in indiscriminate almsgiving. In none do "charities" more grievously overlap. In none is gratuitous medical relief more lavishly bestowed on undeserving objects. In none is it more desirable that the people in general, and our profession in particular, should take to heart the cautions and wise advice given by Dr. Gould in this admirable Address. We regret that our space admits only one or two extracts:—

"Mendicity is mendacity. The crimes of tramps and street-beggars are only surpassed by the crimes of those that give to them. Mendicancy in all its forms and masks is not the result of poverty, but is the cause of poverty. All indiscriminate almsgiving, all wholesale crowd-relief, or collective-relief of want or suffering, is either a forged, to-be-protested promise-to-pay note of sympathy, or it is the payment of wages for something done. Nine times out of ten it is selfish charity, or self-flattery. Foolish people love to flatter themselves that they are kind-hearted. Benevolence is fashionable, and fashionable people—are fashionable! One of the most debauching and disgusting forms of selfishness is that of indiscriminate philanthropy. . . . Almsgiving, on the other hand, is wages; by giving to beggars and tramps we pay for the continuance and increase of beggary and trampism; by Sunday breakfasts we increase hunger on Sunday mornings . . . by indiscriminate out-patient relief we stimulate the production of disease, hire patients to experiment on, increase our reputation or that of our hospital, and at one fine stroke pauperise both the profession and the populace."

Our professional interests justify another quotation:—

"The London *Lancet* has lately been weeping very profusely over the failure of the public to respond with sufficient liberality in financial support of the hospitals of London. Curiously enough, the epiphora seems to be caused by a respectably-sized beam in its own professional eye. To justify the tears it cites the number of cases treated in the 181 London hospitals during 1893. . . . Let us leave out of consideration the in-patients (over 100,000) and the accident cases (243,801), and fix our attention for a moment upon the (nearly) four million visits of out-

patients. It strikes us that if any hysterics are justified in reference to this appalling figure it would be the hysterics of indignation. Can any conscientious physician, can any sane man, believe that this number of people have been adequately considered, careful diagnoses made, and discriminating scientific treatment instituted? Can he believe that a vast proportion of these patients were unable to pay some fee for the service rendered? The whole affair begins to become ludicrous. The sentimental grimace of the charity tragedy is plainly broadening into the guffaw of opera bouffe. The cloven foot of selfishness on the part of those lucky or powerful enough to get in charge of these hospitals, is all too plainly evident to allow us to be much grieved at the moans and wailings of the melodramatic artist."

One of the most important papers in this collection is Dr. Leffmann's, of Philadelphia, on the Relations of Food Adulteration to the Dependent Classes. He mentions one remarkable instance of pernicious adulteration which occurred a few years ago in Philadelphia. Nearly 100 cases of obscure illness, often fatal, many cases being attended by convulsions, were diagnosticated as the result of lead-poisoning, and traced to two bakers who "got in the habit" of substituting chrome yellow for eggs in their manufactures. The author has a poor opinion of oleomargarine; indeed, he goes so far as to call it "one of the humbugs of the century." It is not cheap; "it brings butter prices at all points at which it meets the consumer." It is not pure. "At first made from selected fats, and coloured only with annatto and turmeric, which have long been used in the dairy, it is now coloured with coal-tar products, concerning the wholesomeness of which we are ignorant; and, according to recent analysis, samples have been found to contain paraffin, an entirely indigestible article." In the discussion which followed the reading of the paper some strange facts were elicited. Dr. Gould stated that oleomargarine being substituted for butter in the dietary of a blind asylum, without the knowledge of the inmates, was partially rejected by the boys after a few weeks. They said it was good, but they did not care to eat so much of it. Dr. Didama, of Syracuse (N. Y.), reported that "a farmers' club at Syracuse debated the question of seeking legislation to prevent the manufacture of oleomargarine. It was voted down, the farmers themselves had to buy oleomargarine in order to meet the demand upon them for butter." Dr. Hopkins, of Brooklyn, is responsible for the extra-

ordinary statement that "a firm at Canassie, Long Island, had, a few years ago, a contract to supply the British Army with butter. It was said to have been made from old bones, and the odour from the factory was convincing to the passer-by that the statement was correct."

Let us conclude with a poetical quotation, too frivolous for the American Academy of Medicine, though not disdained by the American Public Health Association. Lieutenant-Governor Chapman concluded his Address of welcome to the Association, meeting at Montreal in September last, with these verses:—

"Placid I am, content, serene,  
I take my slab of gypsum bread,  
And chunks of oleomargarine  
Upon its tasteless sides I spread.

"The egg I eat was never laid  
By any cackling, feathered hen;  
But from the Lord knows what 'tis made  
In Newark by unfeathered men.

"I wash my simple breakfast down  
With fragrant chicory so cheap  
Or with the best black tea in town—  
Dried willow leaves—I calmly steep.

"But if from man's vile arts I flee  
And drink pure water from the pump,  
I gulp down infusoriæ,  
And hideous rotatoriæ,  
And wriggling polygastricæ,  
And slimy diatomaceæ,  
And hard-shelled orphryocercinæ,  
And double-barrelled kolpodæ,  
Non-loricated ambroëilæ,  
And various animalculæ;  
Of middle, high and low degree;  
For nature just beats all creation  
In multiplied adulteration."

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ANTIMALARIC ACTION OF METHYL-BLUE.

DRS. MARSHALL and GEE (*Ind. Med. Gaz.*) recommend methyl-blue for intermittent fevers in cases where quinine and antifebrin have failed. Given in 0.12 gramme doses in pills with extract of benbane, and repeated every two hours until not more than five pills are taken. The temperature gradually falls to normal. The pills have not to be continued beyond the third day.—*Therap. Gaz.* and *Les Nouveaux Remèdes*, No. 11.

## PART III.

### SPECIAL REPORTS.

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#### REPORT ON PRACTICE OF MEDICINE.

By HENRY T. BEWLEY, M.D. Univ. Dubl.; F.R.C.P.I.;  
Assistant Physician to the Adelaide Hospital; and Lecturer  
on Medical Jurisprudence in Trinity College, Dublin.

- I. THE ANTITOXIN TREATMENT OF DIPHTHERIA.
- II. MORNING DIARRHŒA.
- III. THE TREATMENT OF NOCTURNAL ENURESIS.
- IV. THE DRUG TREATMENT OF PHTHISIS.
- V. CREASOTE IN TUBERCULOSIS.
- VI. LÆVULOSE IN DIABETES MELLITUS.
- VII. SCARLATINA-LIKE RASHES IN CHILDREN.
- VIII. THE ANOMALIES AND COMPLICATIONS OF CHICKEN-POX.
- IX. THE TREATMENT OF GONORRHOËAL RHEUMATISM.
- X. THE MANAGEMENT OF FEVERS, AND PARTICULARLY OF  
TYPHOID FEVER.
- XI. ADHERENT PERICARDIUM IN CHILDREN.
- XII. BICHROMATE OF POTASH IN DISEASES OF THE STOMACH.
- XIII. THE HEART IN CHOREA MINOR.
- XIV. THE DIURETIC ACTION OF CALOMEL IN BRIGHT'S DISEASE.
- XV. A MODE OF MAKING PERMANENT PREPARATIONS OF URINARY  
TUBE-CASTS.

#### I. THE ANTITOXIN TREATMENT OF DIPHTHERIA.

THE most important advance in medicine during the past year has, undoubtedly, been the serum-treatment of diphtheria. The literature of the subject has already become very extensive; reports on recent cases are being published in nearly every copy of the medical journals, and it is quite impossible to attempt to refer to all that has been published on the subject. We will endeavour to call attention to several articles which give a fair sketch of the subject.

Dr. Sheridan Delépine has written an account of the experi-



mental evidence on which the method is based, and the pathological considerations which have guided bacteriologists through their work. In 1889 Roux, speaking in London on behalf of Pasteur, said—"The immunity which we could only give by the introduction of a living virus into the body, we can now effect by the introduction of a chemical substance into the tissues, and these vaccine substances are exactly those which we have observed in infectious diseases as being the cause of death. In large quantities they kill, in small they confer immunity." In 1890 Behring and Kitasato (*Deutsche med. Wochenschrift*, Dec. 4, 1890) announced that the blood of animals which had been rendered refractory to tetanus acquired the power of destroying the toxins of tetanus both in vitro and after injection into the bodies of other animals. This property of the blood was not impaired by the removal of the blood corpuscles, and it was therefore inferred that the substance which gave to the blood its antitoxic properties was contained in the blood-serum.

In order to obtain antitoxic serum it is necessary to immunise the animals which are to supply the serum with active toxin. This toxin is obtained by cultivating the diphtheria bacillus for from one to three months, according to circumstances; the culture is filtered through a Chamberland bougie, and the filtrate which contains the toxin, but no microbe, is kept in the dark in well-closed vessels.

The next step is to immunise the animal which is to provide the antitoxic serum. This can be done with the pure diphtheritic toxin, but the process is difficult on account of the very poisonous properties of this toxin. Roux, therefore, uses iodised toxin for the first injections, iodine having the power of lessening the virulence of the poison. The animal receives at intervals injections of the toxin, the dose being gradually increased till the animal is able to bear amounts of toxin which under ordinary circumstances would be surely fatal.

Many kinds of animals may be used; Roux prefers the horse, the serum of which he has found perfectly harmless to man, because it is an animal which can bear large doses of pure toxin, can be immunised rapidly, and yields large quantities of very antitoxic serum. The blood is obtained from the jugular vein; this vessel can be tapped with a trochar many times without losing its elasticity. From the blood thus drawn a perfectly clear serum is prepared.

The action of the anti-diphtheritic serum is shown by the following experiments:—

1. If after injecting serum vulvar diphtheria is produced in a guinea-pig, the local lesions soon begin to subside, and the false membranes separate on the second day. In control animals at the same date the local lesions are progressing and intense, and subsequently such unprotected animals die.

2. If twelve or even twenty-four hours after inoculation with diphtheria, a guinea-pig be injected with a quantity of serum equal to from  $\frac{1}{10000}$ th to  $\frac{1}{100000}$ th of the weight of the animal, he recovers, the membranes beginning to separate on the second day.

3. In the case of experimental tracheal diphtheria in the rabbit the same results are obtained, provided the interval between the beginning of the disease and the injection be not too great, and the quantity of serum used be sufficient.

4. When the serum is injected before the toxin, the animals are found to be refractory if the dose of serum be proportional to that of toxin. A dose of serum equal to  $\frac{1}{100000}$ th of the animal's weight protects a guinea-pig against a dose of toxin capable of killing in five days, and twice this quantity of serum protects it against a dose of toxin capable of killing in two days.

When, however, there is a mixed infection—i.e., when there are streptococci injected as well as diphtheritic bacilli—it is more difficult to arrest the disease.

The immunity obtained by the injection of a toxin differs markedly from that due to the serum. In the first case immunity is slowly acquired, and that not without risk to the vaccinated animal, but when once acquired it lasts a long time. In the second case immunity is obtained rapidly, almost immediately; it is also lost rapidly. In the case of diphtheria it is lost in some weeks.

The antitoxic serum can be injected in large doses without producing any toxic effect, beside the trifling rash sometimes produced by the serum itself independently of the antitoxin.

The mode of action of antitoxins has been found not quite so simple as it seemed at first. The antitoxins do not neutralise the toxins by a kind of combination with them, they probably act indirectly on each other through the intermediation of the cells of the organism, on which they would both be capable of acting.

Antitoxic serum can be obtained in the case of tetanus and snake-poison, but is absent from the serum in the case of vaccinated

animals in the case of cholera, pneumonia, and typhoid fever, although in these diseases the serum protects against the microbe, just as in diphtheria. It is probable that the serum acts by stimulating the cells which have to fight against the microbes.—*Medical Chronicle*, Oct., 1894.

Dr. Roux, of Paris, made a most important communication on the subject before the Congress of Hygiene and Demography at Buda-Pesth. Since 1891 he has studied the effects of antitoxin serum on animals. On Feb. 1st, 1894, he commenced to treat children affected with diphtheria at the Hôpital des Enfants Malades. In every case he systematically administered, at the time of admission, 20 c.c. (5 drachms) of serum, obtained from horses, at one insertion under the skin of the side of the abdomen. If the bacteriological examination showed the child was not diphtheritic the injection was not repeated—128 children affected with various forms of angina were thus treated without suffering the least inconvenience. In diphtheritic children twenty-four hours after the first injection he gave another of 20 c.c. or 10 c.c., which was generally sufficient to complete the cure. The pulse and temperature guided him; if they remained high, the injection was repeated. So long as the temperature does not fall below 100·5° F. the curative effect is not complete, it must be hastened by a supplementary injection. The minimum amount of serum used was 20 c.c. (5 drachms), and the maximum 125 c.c. (4 oz.). During convalescence, some days after the injection of the serum, ill-defined eruptions sometimes appeared, most frequently resembling urticaria.

The principal modifications produced by the serum on the diphtheritic angina were the following:—The general condition remains very good or improves quickly, provided that the treatment has been commenced early enough in the case. The children are more lively and cheerful, the duration of the disease is curtailed, the appetite quickly recovers, and the wasting is slight. The complications following diphtheria are more rare. The false membrane ceases to grow within twenty-four hours after the first injection, and detaches itself in thirty-six or forty-eight hours, at the latest by the third day. The temperature falls promptly under the action of the serum; a sudden crisis-like form of fall of temperature often occurs, and is of excellent prognostic import. In severe cases the temperature begins to fall only after the second or third injection, and then falls slowly. The pulse only

returns to normal two or three days after the temperature. It is well known that angina in which the diphtheria bacillus is associated with streptococci is of graver import than pure diphtheritic angina. In these complicated cases the serum is less efficacious; it produces good results only when injected in strong and repeated doses. The disease lasts longer, and the return to health is more gradual. There is much danger of bronchopneumonia.

In addition to the serum, the only treatment used was a mouth-wash of boric water, or water to which 5 per cent. of "Eau de Labarraque" is added.

The numbers of cases mentioned in Dr. Roux's paper being large, we can refer to them with confidence as expressing the value of the treatment. Diphtheria is a very fatal disease in Paris; the total mortality of children in the hospital during the last four years is 51.71 per cent. From Feb. 1st till June 24th the serum treatment was applied to 448 patients, of whom 109 died, a mortality of 24.5 per cent. During the same period 520 children were admitted into the Hôpital Trousseau who did not receive any serum treatment; of these 316 died, a mortality of 60 per cent. Of cases of faucial diphtheria the mean mortality for four years has been 34 per cent.; but of those who were treated with serum it has been 12 per cent. Of laryngeal diphtheria in which tracheotomy was performed, the corresponding figures are 73.2 per cent. and 49 per cent.

In some of the above cases the Klebs-Löffler bacillus was not found. Excluding these, there remain 300 cases of true diphtheria treated with serum, with 78 deaths—a mortality of 26 per cent. The mortality of such cases in the same hospital, treated without the serum, has been 50 per cent.

The presence of streptococci made the cases more severe. Of 115 cases of pure angina the mortality was 1.7 per cent.; while of 45 who had angina associated with the streptococcus the corresponding figure is 17.7 per cent.

With regard to tracheotomy, Dr. Roux says the serum treatment, by causing the membrane to cease growing and to become detached, will lessen the number of operations, and, if the operation has been done, will enable us to remove the tube on the third or fourth day. On account of the shortened duration of the disease he believes intubation will largely take the place of tracheotomy.—*Lancet*, Sept. 22, 1894.

Dr. Aronson (Berlin), at the same Congress, said he had employed serum from an immunised horse, which was five times stronger than that of Professor Behring. In five months ending with July he had treated 192 patients suffering from diphtheria, as proved by bacteriological examination. In 23 cases the children were moribund when admitted. Of the rest, 19 died, giving a mortality of 11.2 per cent. In the same hospital the mortality for the preceding three years had varied from 32.5 to 41.7 per cent. He had also employed the serum in producing immunity in the children of families in which a case of diphtheria had occurred. Among the 130 children thus inoculated only 2 contracted diphtheria, and that of a very light type.—*Brit. Med. Jour.*, Sept. 15, 1894.

The strength of any given specimen of serum can be ascertained only by experiment. An animal (a guinea-pig) is taken, and into him is injected ten times the minimal fatal dose of diphtheria poison, to which, before injection, a certain quantity of the antitoxin-serum has been added. In this way, by varying in the case of different guinea-pigs the amount of protective serum, it can easily be discovered what is the quantity of serum needed to neutralise the poison. Often on the next day, and always on the second day, after inoculation, the symptoms and appearance of the animal indicated if the proper dose of antitoxin had been employed.

This serum treatment has been employed in England to some extent. Up to the present there has been considerable difficulty in procuring a sufficient supply of the serum, which requires time in its preparation. No statistics are, up to the present time, available, as the number of cases has not been large enough, and in many of them the diagnosis of diphtheria is not certain, no bacteriological examination having been made. It is, however, important to note that the general tone of the published communications on the subject is very favourable.

A good deal still requires to be done to settle the proper dose under different conditions of age and severity of attack. The more severe the attack, and, especially, the longer it has lasted before the serum is injected, the larger is the dose required.

It would appear that the serum is quite harmless, and that an overdose can do no injury. On the other hand, too small a dose has insufficient effect on the disease. As a matter of fact, the amount of serum employed has varied from 10 minims up to

125 c.c. (4 ounces) in some of Roux's cases. It is likely that serums of different strengths have been employed. Recently Professor Klein has prepared a serum, of which he says the average dose is  $1\frac{1}{2}$  to  $2\frac{1}{2}$  drachms.

The serum keeps well for, at any rate, a considerable time. To increase its keeping power a little carbolic acid is often added to it. It is not known how long it will retain its full powers, but will probably do so for several months.

We may conclude this notice by quoting from a paper by Professor Behring:—"We are now in a position to state that in cases of diphtheria treated with the antitoxin serum within the first forty-eight hours of the disease the mortality will not reach five per cent."—*Berliner klin. Woch.*, No. 36, 1894.

## II. MORNING DIARRHŒA.

By this term Dr. Lauder Brunton means a chronic form of diarrhœa, which comes on every morning, the bowels acting several or many times between eight and ten or eleven o'clock, and then not acting again till next morning. With regard to the causation of this ailment, he quotes the view of M. Chauvet, who considers that in most cases the stomach is rather dilated, and the food, instead of being expelled through the pylorus a little at a time, as it ought to be, lies in the dilated organ through the hours of sleep, and on awaking is poured out *en masse* into the small intestine, through which it quickly runs into the large intestine and on to the rectum.

It is not always necessary for the patient to get up in order that these phenomena may occur—a mere change of posture in bed may be sometimes sufficient.

While Dr. Lauder Brunton holds that this dilatation of the stomach is one of the factors in the production of morning diarrhœa, he does not consider that it is the sole, or even the chief, factor. He believes that morning diarrhœa is usually dependent upon an irritable condition of the sigmoid flexure, or even of the rectum. Sometimes there may only be chronic inflammation or congestion, while at other times there may be actual ulceration. In the great majority of cases there is tenderness on pressure over the sigmoid flexure, which may be felt hard and contracted like a rope under the palpating finger. He points out that even though the fluid contents of the small intestine be propelled into the cæcum and colon, no diarrhœa will occur unless the sigmoid flexure partici-

pates in the peristaltic movement. The proper function of this part of the intestine is probably to keep back the intestinal contents until time has been allowed for the absorption of their more fluid constituents ; its peculiar bend assists in promoting this function. If, however, the sigmoid flexure be irritable, and more especially if it have an ulcer on its mucous membrane, the contents of the transverse and descending colon when poured upon it will be apt to excite peristaltic movements, and thus cause ejection from time to time of these contents into the rectum. Here they will excite expulsive efforts, and the motions will be frequent and fluid.

With regard to treatment, he recommends that no liquids be drunk after five, six, or seven o'clock at night—*i.e.*, for twelve or fifteen hours before the attack would usually come on. If the patient finds this *régime* burdensome he may, perhaps, be allowed to take a glass of wine with his dinner, but he should avoid soups and all other liquids at dinner, tea or coffee after it, and especially any aerated water, either with or without spirits, during the evening. If these measures be not sufficient, the quantity of water taken during the earlier part of the day should be restricted ; such drugs as bismuth and soda, spirit of chloroform and cinnamou water are useful.

In obstinate cases, massage applied to the abdomen is the most useful remedy. Dr. Lauder Brunton also recommends the local application of ointment. For this purpose he has had a special ointment introducer, made by Messrs. Arnold (figured in his paper), which is provided with a tube whereby ointment can be introduced into the upper part of the rectum, or higher. He has used an ointment containing bismuth.—*Quarterly Medical Journal*, January, 1894.

### III. THE TREATMENT OF NOCTURNAL ENURESIS.

In obstinate cases of this complaint, which have resisted ordinary modes of treatment, and in which the patient has come to the age of puberty, Dr. Donald MacAlister considers that the secret of success lies in courageous overdosing with atropin. Having ascertained that no condition requiring surgical interference exists, he employs this drug and gradually pushes it to the full limit of tolerance, and in no instance out of some twenty cases has he failed to effect a cure. He directed that a boy, in a case which he describes, should drink no fluid after 6 p.m. ; that at 9 p.m. he

should take five drops of the following mixture in a tablespoonful of water (age of boy, fourteen years):—

Liquoris atropinæ sulphatis, ʒiiss.

Liquoris strychninæ hydrochloratis, m̄xlv.

Syrupi aurantii, ad ʒi.

And that he should go to bed at 10, after emptying the bladder; that he should be waked to pass water at twelve, when his parents went to bed, and again at six when the servants rose. This dose was to be continued for three nights; then ten drops nightly for the next three, then fifteen for the next three, and so on till thirty drops were taken. This dose was continued for a week, when enuresis occurred. The dose was increased by five drops every three nights till sixty drops were taken. This dose was continued for a week; no enuresis occurred, and the dose was diminished by ten drops every three nights, until after nine weeks the treatment was discontinued. The enuresis, which had occurred two or three times a week since early childhood, never recurred. In this case the drug caused dryness of the throat, and dilated pupils, and paralysed accommodation so that he became unable to write.

In this case the maximal dose given was about  $\frac{1}{3}$  grain of sulphate of atropin, but in the case of a girl of seventeen he pushed the dosage up to  $\frac{1}{4}$  grain of the sulphate of atropin nightly, with ultimate success. In no instance were the secondary effects alarming in any way, or, indeed, more than slightly inconvenient. The addition of strychnin probably diminishes the depressing effect of large doses of atropin, and increases the sensitiveness of the vesical centres to reflexes from the bladder walls.—*Practitioner*, May, 1894.

#### IV. THE DRUG TREATMENT OF PHTHISIS.

Dr. F. C. Coley believes that *guaiacol carbonate* influences favourably the general condition of the patient, and enables him to gain both in strength and weight: it does not appear to control any special symptom. It has many advantages over creasote, which it resembles in its effects. Although not quite tasteless, it is not seriously disagreeable. Children take it without making any special objection. Only one of Dr. Coley's patients complained much of its taste, and she was the only one who spoke of any nausea following it. In her case the drug was administered in tabloid form, and so the difficulty was overcome. In all his other cases it was given in powder. He has been in the habit of begin-



ning with gr. 5 every night, gradually increasing the dose, and, after a while, giving a second dose every morning; but he now believes that larger doses are quite safe—as much as gr. 15 to begin with. He has given up to 50 grs. daily, and has seen no ill-effects. It has no effect on cough, diarrhœa, or temperature; but while taking it the patients gain in weight.

In the diarrhœa of phthisis he has found *salol* very useful—gr. 5 every morning for an adult.

Another mode of treatment which he has found very useful is the *intra-laryngeal injection of menthol*. The formula he uses is menthol, 20 per cent., guaiacol, 3 per cent., dissolved in olive oil. The laryngeal syringe should have a delivery tube provided with one terminal opening, and should be capable of holding one fluid drachm. The point of the delivery tube should be guided by the help of the laryngoscope into the upper part of the larynx; it is quite sufficient to get it past the epiglottis. From 20 to 30 minims of the solution are injected at once: after a pause of two or three minutes this may be repeated. This excites cough sometimes. The great point in avoiding this is to take care that the patient is making deep respirations while the injection is being given. This secures the wide patency of the rima glottidis, which is necessary for the satisfactory descent of the fluid into the trachea. The instruments must, of course, be carefully disinfected after use.

He thus describes the effects of these injections:—"The dyspnoea is often relieved in a very striking manner, and the relief from cough often lasts for two or three days; thus rest and sleep are secured. Any patient who can tolerate an ordinary laryngoscopic examination can bear these injections."

As an *inhalation*, to be used with Burney Yeo's inhaler, he recommends—

Tr. iodi æthereæ, 3ij.

Acidi carbolic, 3ij.

Creasoti *vel* thymolis, 3j.

Spiritûs chloroformi, ad 3j.

—*Practitioner*, Oct., 1894.

#### V. CREASOTE IN TUBERCULOSIS.

Dr. Burbureaux has used this drug very extensively during the past five years, both in private and among the military prisoners in the Hôpital du Val-de-Grâce. Of 300 cases under prolonged observation, 15 gave very favourable results, 92 encouraging, 115

good, and 32 moderate, in 46 no effect was noticed. All the 15 cases were considered hopeless before the treatment began; all took creasote well, and all have been perfectly well for periods varying from six months to three years. He points out that creasote seems to have much more effect in cases occurring among the poor and ill-fed than among the well-fed and healthy, the probable explanation being that a given tubercular affection may not be sufficiently virulent to gain root in a healthy person, while it may do so in an ill-fed man, the proportion of slightly virulent cases being, therefore, greater among the poor than among the wealthy. A phthisis beginning in a previously healthy person, especially if the onset be acute or sub-acute, should be looked on with grave mistrust, as the bacillus is probably very virulent, and creasote will not do much good.

The symptoms of intolerance of creasote are (in order of importance)—sensations of coldness coming on six or seven hours after administration; sudden fall followed by a rise of temperature; sweats, immediate or coming on after a time; black urine, and vertigo. When these symptoms are well marked, it is only injurious to continue the treatment; when less marked, a smaller dose may be tried, but it is rarely possible to overcome the intolerance.

The dose must be found out for each case by careful trial, the largest possible dose being administered. The author has given 27 minims of creasote in a day; after a week, 50; and after a month, 150 minims, without reaching the limit of tolerance. He strongly believes the greater the dose the greater the effect. It may be given by the mouth or the rectum or hypodermically.—*Gaz. des Hôpitaux*, June 18, 1894, and *Med. Chronicle*, Sept., 1894.

#### VI. LÆVULOSE IN DIABETES MELLITUS.

Dr. Hale White has tried lævulose in eight cases, and has formed the following opinions:—(1) If large amounts of lævulose be given, some of it appears in the urine. (2) In none of these cases did lævulose have the pernicious effect, often seen with ordinary carbohydrates, of increasing the output of sugar beyond the extra quantity given. (3) When lævulose is given the excretion of sugar is usually increased, but may be diminished. (4) In most cases much less sugar is passed in the urine after giving lævulose than would have been excreted if the previous excretion of sugar remained stationary, and all the lævulose had appeared in the urine.

(5) There is some evidence that the larger the amount of lævulose the less will be the increase of sugar in the urine. (6) While some of the cases show that lævulose can be utilised better than dextrose, none show that dextrose can be utilised better than lævulose. (7) Some of the patients felt better while taking lævulose and gained weight, none of them felt worse.—*Guy's Hospital Reports*, 1894, and *Practitioner*, October, 1894.

Dr. J. B. Haycraft has studied the effects of lævulose in three cases of diabetes. He says—(1) A patient suffering from chronic diabetes can make use of 50 grammes or more of lævulose daily. (2) In some acute cases a part of the lævulose taken with the food is excreted as such, a part is utilised in the body, and a part is transformed into glucose. (3) In rabbits glycogen is formed from the lævulose taken, and is stored up in the liver.—*Medical Chronicle*, September, 1894.

#### VII. SCARLATINA-LIKE RASHES IN CHILDREN.

Dr. Ashby calls attention to the great difficulty in diagnosing the nature of some of these rashes. Scarlatina is characterised by—(1) a diffuse punctiform rash covering the trunk, back, and limbs, which even in its mildest form remains visible for twenty-four to forty-eight hours; (2) tonsillitis; and (3) fever. A red rash which is seen by candle-light and is gone by daylight is not scarlatinal. A scarlatinal rash persists for a day at least, and though it may appear to be erythematous, yet the red points which correspond to the hair follicles are of a deeper colour than the surrounding skin.

Of these three signs the rash is the most important. Scarlatina may be practically a feverless disease; the fauces may be only doubtfully reddened. On the other hand, a red rash is often seen in the course of other diseases.

Dr. Ashby, during the recent influenza epidemic, met with several cases which in their general character resembled influenza, but which were accompanied by a rash very like that of scarlatina. Others have noticed the same phenomenon. In some of these cases there was tonsillitis, and desquamation followed as in scarlatina. In Ashby's cases no infection from scarlatina could be traced; this disease did not exist in the neighbourhood. It would appear impossible to make a positive diagnosis from the morbid appearances, and every case in which a red punctiform diffuse rash appears should be treated as if scarlatina.

Rötheln, too, sometimes most closely resembles mild scarlatina, having a diffuse red rash and tonsillitis. This kind of Rötheln sometimes occurs in epidemic form. The attacks began suddenly with fever, headache, a red rash, and sometimes vomiting. The fever, which ranged from  $101^{\circ}$  to  $103^{\circ}$ , lasted two to four days, and the rash about the same time. The rash was general except on the face. "Diagnosis was only possible by observing we were in the presence of an epidemic of a mild disease, in which there were no bad cases, no complications or sequelæ." When several cases of the kind have occurred, the long incubation of Rötheln (18 to 21 days) helps to distinguish the disease from scarlatina, whose incubation is two or three days.

Diphtheria and cases in which there is abundant suppuration, are apt to be accompanied by a red rash. "Surgical scarlatina" is usually scarlatina occurring in a subject under the care of a surgeon, but in cases where there is abundant suppuration there may be a rash, red, but more dusky than in scarlatina. Such a rash may be seen in bad scarlatina where there is much suppuration about the neck, in bad diphtheria, and in empyema cases.

The only "drug eruption" likely to cause confusion is that due to belladonna or its alkaloid. Antipyrin produces a rash more of the measles or nettle-rash type. In ptomain poisoning an erythematous rash may occur.

With regard to desquamation, Dr. Ashby does not consider it is always of much value in establishing a diagnosis. Mild cases of scarlatina often do not desquamate at all, or differ in no way from other febrile attacks—such as influenza or pneumonia. It is only some attacks of scarlatina that are followed by such peeling as is not seen after any other disease.—*Medical Chronicle*, June, 1894.

#### VIII. THE ANOMALIES AND COMPLICATIONS OF CHICKEN-POX.

Dr. L. Galliard, in *La Médecine Moderne*, shows that chicken-pox may be a serious disease; capricious in its course; difficult of diagnosis. The characteristic eruption of vesicles may be preceded, accompanied, or followed by a rash like that of scarlatina, which commonly lasts for twenty-four hours and is accompanied by fever, but is devoid of any prognostic importance. The normal eruption may stop short in the papular stage, or vesicles may form and become confluent, so attaining extraordinary dimensions.

Intense inflammation of the mouth and pharynx may co-exist

with chicken-pox. Nose-bleeding occasionally occurs; other hæmorrhages are rare. Henoch and others have described a varicellous nephritis, which may be severe and even cause death. Therefore the urine should be examined in all cases. Gangrene is the most formidable complication, and the one longest known; it may occur in any case, even the mildest. The gangrene generally begins at the margin of the vesicles, and thence spreads, adjacent areas coalescing. Death is the usual result.—*New York Med. Jour.*, June 2, 1894.

#### IX. THE TREATMENT OF GONORRHŒAL RHEUMATISM.

In a paper on this subject in the *New York Medical Journal*, Dr. Ramon Guitéras recommends the salicylates during the first few days of the attack as decreasing the fever and the severity of the pains. After this period salicyl compounds cease to be of any use. Of these compounds he prefers salol, as being more pleasant to take and less likely to cause stomach disturbance than salicylic acid. In the later stages he recommends colchicum combined with potassium iodide; he thinks that colchicum has a distinct influence on the urethritis as well as on the arthritis. He is opposed to the use of any kind of injections, and holds that gonorrhœa should be treated only by remedies given internally—copaiba, cubebs, and sandal-wood.

When there is any thickening about the joint iodide of potassium is useful, as also is counter-irritation, for which purpose he strongly recommends an ointment of equal parts of ichthyol and lanoline. After acute symptoms have passed away, massage, electricity, and the use of elastic bandages hasten recovery.—*Internat. Med. Magazine*, June, 1894.

#### X. THE MANAGEMENT OF FEVERS, AND PARTICULARLY OF TYPHOID FEVER.

In a most suggestive paper Dr. I. Burney Yeo calls attention to the necessity of modifying our ideas as to the management of fevers, in the direction pointed out by our advances in knowledge as to the causation, both of these diseases themselves, and of the symptoms noted during their progress. Typhoid fever (he speaks of this fever as being typical of the whole of the class) is due to a microbe. This microbe produces substances within the body (toxalbumins and ptomaïns) which act as poisons on certain of the tissues, and by their toxic action excite the morbid manifesta-

tions which characterise the disease. Certain substances outside the body will arrest the growth and put a stop to the activities of these microbes, while there are other conditions, and notably the presence of substances in a state of putrefaction, which greatly promote their growth and stimulate their activities. Treatment should be "antitoxic"—*i.e.*, should be directed against the bacilli and their products.

After mentioning several drugs which have been employed to promote *intestinal antiseptis*, he says:—"We should attempt more than this, and endeavour to produce an *antitoxic* effect on the blood and the tissues." To attain this end he employs the following mixture:—Into a 12 oz. bottle put 30 grains of powdered potassium chlorate, and on this pour 60 minims of strong hydrochloric acid; a yellowish-green gas is at once liberated. Close the bottle with a cork, and agitate the mixture gently until the bottle is filled with the gas; then pour water into the bottle, little by little, closing the bottle at each addition and shaking well, until the bottle is nearly filled. In this dissolve from 24 to 36 grains of quinine, and add some syrup of orange-peel to make it more agreeable to take. Of this, to adults, he orders one ounce to be given every two, three, or four hours, according to the severity of the case.

This method of treatment he has adopted for the past ten years in all the cases of typhoid that have come under his care, with uniformly good results in all but two cases. It is most important that it should be begun early in a case.

The following are the effects he has noticed:—

1. There is a remarkable cleaning of the tongue and mouth.
2. The foul putrefactive odour of the *faeces* is rapidly removed if the remedy be given often enough, and in sufficient quantity; the odour of chlorine is often noticed in the stools.
3. The pyrexia is continuously lowered.
4. In certain cases, especially in young subjects, and if the treatment has been begun quite early in the case, the average course of the fever appears to be notably shortened.
5. The patients seem subjectively much less disturbed by the fever poison; their physical strength and intellectual clearness are better sustained.
6. Convalescence is more rapid and complete, and troublesome sequelæ, as far as his experience has extended, are unknown.

He also approves of a calomel or other purge in the initial stage

of the fever, if diarrhœa does not exist, and of washing out the large intestine twice daily with naphtholated water.

In this way, as far as drugs go, the development and activity of toxins is prevented as much as possible. In addition, however, we must adopt a method of feeding which shall by no possibility leave a bulky residue of unabsorbed matter to putrefy in the lower part of the small intestine. We must carefully observe what digestive and absorptive activity exists in each particular case; in many it is extremely small. Too much milk is often given; sometimes it is vomited in curdy masses, and sometimes keeps up diarrhœa, passing in large lumps through the bowels. Far more often, however, if the evacuations be carefully examined, most of the casein of the milk will be found to pass through undigested, not as coarse curds, but as a fine deposit from the "pea-soup" stools. Estimate accurately the absorptive capacity of the patient. If he cannot absorb milk at all, give him some other food. If he cannot absorb four pints in the twenty-four hours give him two, and if he cannot absorb two pints give him one, and if he cannot absorb more than half-a-pint give him half-a-pint.

Give all food *very dilute*; milk should be diluted with twice its bulk of water. We wish, for antiseptic and elimination purposes, to give as much pure water as the patient will drink—give it then as a diluent of his food.

He believes that the general tendency is to give alcohol too early and too freely; in severe and protracted cases it is needful towards the end. If marked cardiac debility exists, its beneficial effect is increased by the administration of coffee at the same time.—*Amer. Jour. Med. Sciences*, June, 1894, p. 640.

#### XI. ADHERENT PERICARDIUM IN CHILDREN.

Dr. T. Fisher calls attention to the serious consequences that result from this lesion. He says—"Adherent pericardium is the most common cause of enlarged heart in children. This sequence of pericarditis is much more serious in its nature than valvular disease; children in whom it is present will probably never reach adult life." He quotes Sansom and Sturges, the former of whom writes:—"A valvular lesion may be perfectly compensated, but pericardial adhesions are adverse and often lead to rapid death."

In the *post-mortem* records of Guy's Hospital he found 14 cases of death from the consequences of adherent pericardium in children of fifteen years of age and under, and in the same space of time

only four cases of death from valvular disease. In all the cases of adherent pericardium the heart was much enlarged, in some enormously so. He records one heart of 23 oz. taken from a girl aged twelve years (the normal weight at this age is about  $4\frac{1}{2}$  oz.), and in all the heart weighed at least twice its normal weight.

Adherent pericardium being of such a serious nature, he next considers the means of diagnosticating it. A history of pericarditis in a child suffering from an enlarged heart would make probable the diagnosis of adherent pericardium. In the absence of such history physical signs are of slight value. All the signs usually mentioned—recession of apex-beat, retraction of the lower end of the sternum, constancy of position of impulse in various postures of the patient, &c.—are usually absent. He, however, calls attention to one sign which he thinks of importance. It is a sound heard during diastole, which may constitute part of a typical *bruit de galop*, or be a rumbling sound which might easily be mistaken for a præ systolic murmur. In cases of adherent pericardium with dilated heart, whether there is disease of the mitral valves or not, we shall almost certainly have a systolic mitral murmur due to regurgitation. In addition, we shall probably hear another abnormal sound, interpolated between the first and second sounds. This may be merely like a soft first or second sound, or it may be of a rumbling character, diastolic or præ systolic in time, and thus thought to indicate mitral narrowing. As a distinguishing mark, he says, the præ systolic rumble of a dilated heart is sometimes very low pitched, and the diastolic murmur will probably be heard, not only just round the impulse, as is common in mitral narrowing, but also over the right ventricle in the third and fourth intercostal spaces.—*Bristol Med. Journ.*, June, 1894.

## XII. BICHROMATE OF POTASSIUM IN DISEASES OF THE STOMACH.

Professor Frazer records 28 cases in which this drug was employed, as far as possible, apart from all other medicinal treatment. In 18 cases the disturbance was probably functional or inflammatory, and manifested itself by pain, distress, and tenderness in the gastric region, nausea, and vomiting. Constipation and anæmia were also often present. The bichromate rapidly removed all these symptoms, except the constipation and anæmia. In 10 cases in which symptoms of gastric ulcer existed, or had existed, it was also found to afford valuable relief. The dose varied from  $\frac{1}{12}$  to  $\frac{1}{6}$  grain, thrice daily, given on an empty stomach. It may



be given in pill or in solution ; the latter mode is generally available. Some simple flavouring may be added to the mixture. In cases of acute ulceration with hæmatemesis, bichromate of potassium is of little use, as it does not check hæmorrhage. Professor Frazer believes the drug is useful, partly because it checks putrefaction and partly because it has an analgesic action on the gastric mucous membrane.—*Lancet*, April 14, 1894, and *Quar. Med. Jour.*, Vol. II., Pt. 4.

### XIII. THE HEART IN CHOREA MINOR.

In this connection Dr. Osler discusses—

1. *The condition of the heart during the attack.*—Cases of chorea with exaggerated movements may present for days an excessively rapid heart action. On the other hand, with the mental enfeeblement which sometimes follows chorea the pulse may be abnormally slow, beating in a child of ten or twelve at the rate of 70 or 80 a minute. He has never seen a case in which the disordered movement was of such a kind that it might be attributed to a special choreic action of the heart-muscle.

With regard to the frequency of murmurs, out of 554 cases 170 (30·7 per cent.) presented heart murmurs, in 149 apical, in 21 basic. These murmurs may be functional or organic.

*Functional.*—A basic systolic murmur, generally pulmonary in maximal intensity, but sometimes aortic, may be due to the very excited and rapid action of the heart. Anæmia and debility may cause soft systolic murmurs in the pulmonary artery and apex areas, often, too, heard intensely over the body of the heart along the left sternal margin. Frequently with it one notices a wide area and fulness of cardiac impulse, and sometimes systolic pulsation in the cervical veins. These murmurs are, in all probability, caused at the pulmonary and tricuspid orifices. In protracted cases with marked debility and weakness of the heart-muscle the systolic apex murmur may be mitral in origin and be due to muscular insufficiency. Dr. Osler does not believe in mitral regurgitation due to irregular and disordered (choreiform) action of the heart-muscle. “In a large proportion of all cases of chorea in which a murmur is heard at the base or along the left margin of the sternum the disturbance is probably functional.”

*Organic.*—“There is no disease, not even acute rheumatism, which is so often accompanied by acute endocarditis as chorea. The mitral valve is the part most often affected. The symptoms and

signs of endocarditis are very uncertain; both may be entirely absent, and yet after death vegetations on the mitral segments may be found. The apex beat may be a little diffuse and the area of dulness increased. An alteration of the first sound, which has a prolonged or dull character, with the subsequent occurrence of a blowing murmur at the apex region, developing under observation before the patient has become much enfeebled or anæmic, are the most reliable signs. We must, however, remember that endocarditis may exist without causing any murmur. Vegetations have been found on the mitral segments after death in cases where no bruit existed. These are facts which suggest that we may have during the attack an endocarditis, not manifested even by a murmur, which has, however, laid the foundation of future trouble."

2. *The condition of the heart in fatal cases.*—Osler has collected statistics of 155 fatal cases, and in 136 of these the heart was affected. Most often the mitral segments were the only parts affected. In some cases the aortic or tricuspid valves were involved as well. Very rarely is the aortic valve the only seat of disease. "In the almost constant association with endocarditis, chorea stands unique among diseases."

3. *The subsequent condition of the heart in choreic patients.*—Dr. Osler investigated the state of the heart in 140 cases—98 males and 42 females—two or more years after an attack of chorea. In 51 cases the heart was normal; in 17 there was disturbance, which might reasonably be regarded as functional; in 72 cases ( $51\frac{3}{4}$  per cent.) there were signs of organic heart lesion. In most of these cases the physical signs pointed to mitral regurgitation. In 24 cases a mitral præ systolic murmur was present. There were only 4 cases of combined mitral and aortic disease. It is to be remarked that in the majority of these cases of organic disease there had been no articular complication of the chorea.

4. *Pericarditis in chorea.*—Pericarditis is not so common. Of the 72 autopsies in chorea collected by Osler, pericarditis occurred in 19 cases, in 17 of which it was associated with endocarditis; in 8 of the cases there was a history of acute rheumatism.

The following sentence is to be remembered:—"In a considerable number of cases of chorea, much larger indeed than has hitherto been supposed, the complicating endocarditis lays the foundation of organic heart disease."—*Med. Chron.*, August, 1894.

## XIV. THE DIURETIC ACTION OF CALOMEL IN BRIGHT'S DISEASE.

There has existed up to the present a widespread objection to the use of calomel in dropsy dependent on Bright's disease. This objection has been fostered by the theories of Rosenheim and Jendrassik as to its mode of action, the former attributing its diuretic effect to a direct stimulation of the renal epithelium, while the latter holds the following view—under the influence of the drug the endosmosis of fluid from the tissues into the blood-vessels is increased, the blood, therefore, becomes more watery, and the kidneys, in accordance with their physiological function, endeavour to withdraw this extra amount of water from the blood, until it recovers its normal proportion.

Dr. T. Sklodowski had occasion to prescribe calomel as a diuretic in more than 40 cases, in about half of which the dropsy was caused by Bright's disease. Out of 14 cases of nephritis, 7 were undoubtedly benefited, 2 seemed somewhat relieved, and in 5 cases no result could be traced from its use. In 5 of the 7 cases benefited, calomel was the only diuretic used, in 2 caffeine had been previously used without effect. In no case could any evil effect be traced to the calomel. It often does good in Bright's disease, and should be more often employed in these cases, especially as we have very few drugs which have any effect on this condition. Sometimes in very bad cases, in which other drugs are useless, it promptly relieves.

It is unfortunate that one cannot say, in any given case, whether calomel will be of use or not. Neither the course of the disease nor any of the symptoms help us in deciding this point; it however is certain that it is useful in cases both of acute and of chronic nephritis. If it has caused diuresis in any given case, if the dropsy returns, a second course of calomel will generally cause it to disappear.—*Deutsches Archiv. f. klin. Med.* 52, Heft. 3 & 4.

## XV. A MODE OF MAKING PERMANENT PREPARATIONS OF URINARY TUBE-CASTS.

K. Bohland collects the sediment, preferably by means of a centrifuge, pours the supernatant urine away, and washes the sediment with a solution of sodium chloride. Then it is for 14 days treated with Müller's fluid, the fluid being several times changed during this time. Then all the Müller's fluid is poured off, and absolute alcohol is used to harden the casts, the alcohol

being changed until it ceases to be coloured or standing over the sediment. Tube-casts so treated are slightly shrunken, but otherwise are excellently preserved. If the alcohol is allowed to evaporate, they retain their characters even when dry for a considerable time. They can be stained, and thus better preparations are obtained than can be procured even from fresh specimens.

Bohland adds, that he never could detect fibrin in the tube-casts.—*Centr. Bl. f. innere Med.*, 1894, No. 20.

#### EXPERIMENTAL TYPHOID FEVER.

SANARELLI (*Ann. de l'Institut Pasteur*, April, 1894) gives an account of an exceedingly interesting series of experiments in the production of a disease by typhoid toxin which resembles closely that produced by the bacteria themselves. The toxin was prepared by inoculating flasks of the culture fluid with virulent typhoid bacilli, and allowing them to stand for about a month at a temperature of 37° C. They were then sterilised and kept at the ordinary temperature for about eight months, at the end of which time they were hermetically closed and allowed to macerate for several days at 60° C. The liquid in the flasks formed two layers, the upper being perfectly clear, which was carefully removed. The toxic and pathogenic effect of this fluid was tested on rabbits, mice, guinea-pigs and a monkey. The summary of the results obtained in reference to typhoid is as follows:—1. Eberth's bacillus, having penetrated the organism, produces a toxin which acts on the nervous system and brings about death by collapse. 2. In addition to this toxic effect, this toxin acts peculiarly on the mucous membranes, especially of the intestine, and thus brings about the familiar lesions. 3. All of the anatomical changes produced by the toxin, and independently of the virus, are accompanied by symptoms presenting very close analogies with those of human typhoid. 4. In experimental, as in human typhoid, Eberth's bacillus is not found in the intestinal contents; this fact militates against the idea that the disease is a process infectious in origin localised in the intestine. 5. The absence of the specific organism from the contents of the intestine is explained in two ways:—(a) Because typhoid fever is an infection of the lymphatic system only; (b) because directly the poison begins to act on the intestinal walls *B. coli* becomes pathogenic, and increases so enormously as to obliterate other forms. 6. Given the grave toxic anatomical changes of the intestinal mucous membrane, the *B. coli* constitutes the first cause of the secondary infections and localisations so frequent in the disease. 7. If the animal is partially vaccinated the *B. coli* in the intestine produces only local effects. 8. Animals vaccinated against Eberth's bacillus are also vaccinated against *B. coli*.

# THE LUCAN DAIRY PROCESS

For the Sterilization and Filtration of Milk.

THE paramount importance to everyone of avoiding contaminated milk, especially at times like this, when an epidemic is present in the city, is my reason for calling your attention to the above subject.

In 1893 I undertook to supply to the public

Pure Milk in Clean Vessels from Healthy Cows.

In order to fulfil these conditions I adopted elaborate precautions, of which I now give a brief *resumé*.

- Cows.** Entirely grass fed in summer. Carefully housed, partly grass-fed, and regularly exercised in winter. Inspected at short intervals by experienced V.S.
- Vessels.** Scalded thoroughly by super-heated steam. Lids cleansed by same method. Water used for washing certified by analysis to be safe.
- Employees.** Regularly inspected by a Fellow of the Royal College of Surgeons. Suspended from duty on slightest complaint of illness.
- Milk.** No foreign substance added. Samples frequently taken from our shops and carts by trustworthy inspectors, so as to check all possible adulteration.
- Sterilization and Filtration.** (Patent Process.) Effected by passing the milk through a complicated series of filters, the efficiency of which is evidenced by the removal of all sediment from the milk. Then by subjecting the milk to the action of a sterilizer, it is rendered absolutely free from contamination.

R. G. NASH,

24 Parkgate-street, Dublin.

The fact that Mr. Ernest Hart has published reports of no less than 74 epidemics of disease, afflicting 5,044 persons, and caused by pollution of milk, ought to prove, even to the most sceptical, that in drinking carelessly-collected unsterilized milk they run a very serious risk.—*See Brit. Med. Jour., Sept., 1894.*

THE REPORT OF THE EMINENT BACTERIOLOGIST

**Dr. EDMOND J. M'WEENEY, M.A.,**

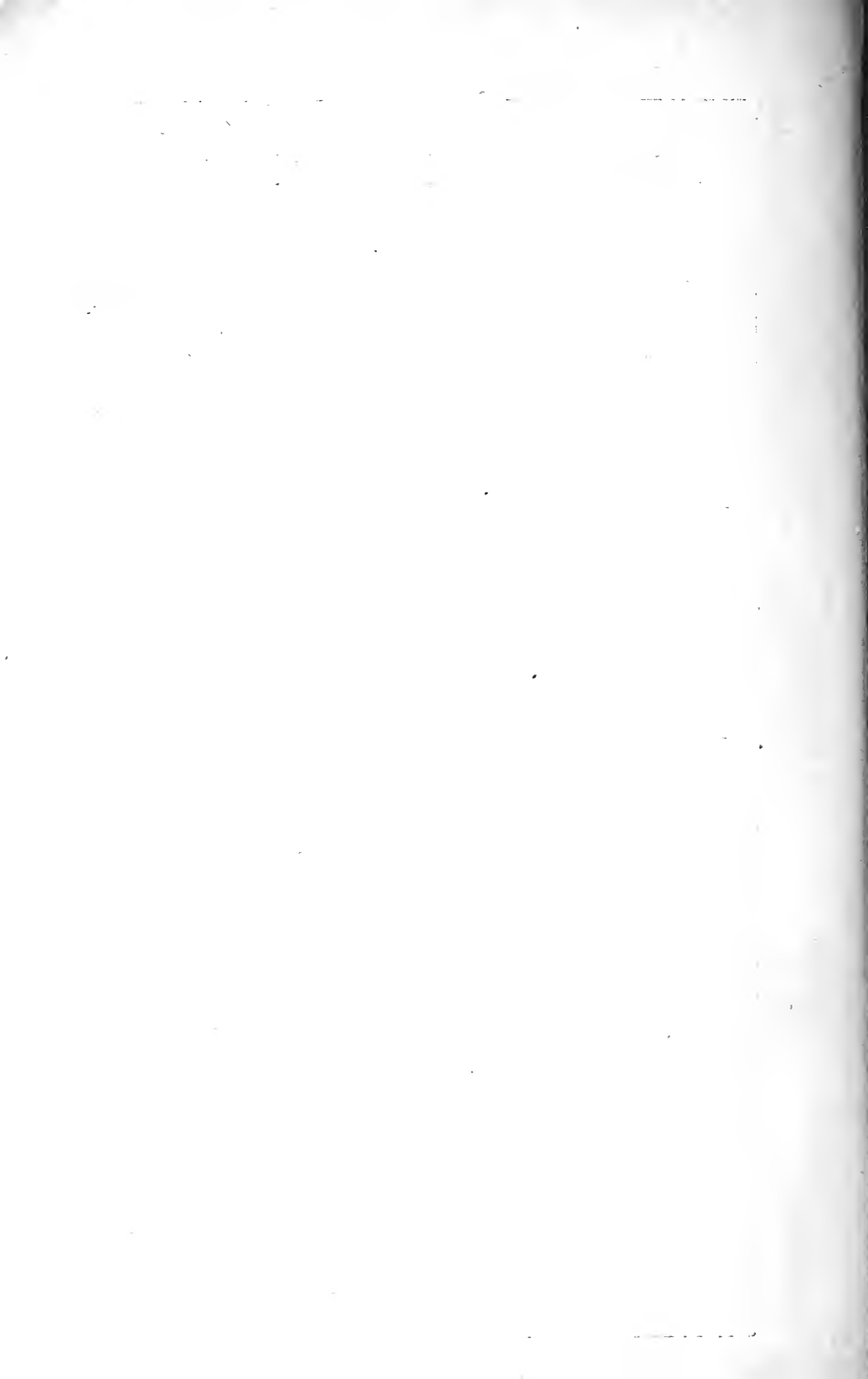
*Professor of Pathology, University Medical School, and Pathologist to the Mater Misericordiae Hospital, Dublin.*

"To the Manager, Lucan Dairy.

"I have frequently and carefully examined the process of sterilization by heat and filtration to which the milk of the LUCAN DAIRY is subjected under Nash's patent process; and I have personally collected many samples of the milk and made a bacteriological examination of them. The process used is **perfectly harmless**, no foreign substance is added, and the **nutritive value of the milk is not in the slightest degree impaired**, while the objectionable sediment, which exists to a greater or lesser degree in all milk, is altogether eliminated. The keeping properties of the milk are greatly increased by the process of filtering and sterilization. Coupled as it is with the periodic medical inspection of your employees, and the carefully enforced veterinary examination of your dairy cattle, **I consider that your system of dairy supply could hardly be improved upon in point of efficiency and safety.**

EDMOND J. M'WEENEY, M.D., &c.

"27th August, 1891."



## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—W. THOMSON, F.R.C.S.I.

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#### SECTION OF PATHOLOGY.

President—J. A. SCOTT, M.D.

Sectional Secretary—J. B. STORY, F.R.C.S.

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*Friday, November 2, 1894.*

The PRESIDENT in the chair.

#### *Iron Deposits in Pernicious Anæmia.*

DR. SCOTT showed sections taken from two cases of pernicious anæmia under the care of Drs. Beatty and Bewley in the Adelaide Hospital. The blood showed considerable variation in size of the corpuscles, and many nucleated corpuscles. In one case the iron was deposited in the outer zone of the hepatic lobules, while the kidney was free from iron in excess; while in the other case the iron was found in the kidney only by the Prussian blue reaction, the liver being free.

DR. FRAZER asked in what form Dr. Scott considered the iron to be present in the specimens exhibited?

DR. BOYD said he considered the increased hæmogenesis in pernicious anæmia to be due to an increased hæmolysis. The fact that the increased hæmolysis was frequently best marked in the liver might possibly be due, as Dr. Hunter suggested, to the absorption of toxins by the portal system; these then acting on the blood corpuscles caused the iron to be set free in the hepatic cells. In the anæmia following hæmorrhage increased hæmogenesis brought the blood up to the normal standard,

and it was conceivable that in both cases increased demand caused increased supply.

DR. GRAVES mentioned some cases of pernicious anæmia in which he had demonstrated a good deal of iron to be present in the liver cells.

DR. SCOTT, in reply, stated that the iron was probably present in the form of an oxide. It is quite possible that toxins may be absorbed, but it is doubtful whether this occurs at the beginning or end of the disease. In one of Dr. Graves's cases he remembered that the spleen in certain parts gave a Prussian blue reaction.

#### *Tubercular Iritis.*

MR. ARTHUR BENSON showed a microscopic section of a case of what appeared to be tubercular iritis. The case had been seen by him in London in May last, through the kindness of Mr. Hartridge, and the section was sent to him by Dr. Robert Jones, with a short history of the case—a girl, aged fifteen, without definite tubercular history. She had been troubled with the eye for about nine months, a brown spot on the base of the iris being the first change noticed. Other similar ones followed. The growth consists of a granulomatous-looking mass (with a few ill-defined giant cells), situated near the base of the iris and blocking up the iritic angle. The eye having become blind, was enucleated.

MR. STORY related a case of a girl he had seen, many years ago, with an ulcer on the conjunctiva, between the lower lid and the eyeball. This was treated for many months without effect, and finally the eye was enucleated. Microscopic sections, which he had exhibited in 1881 at the International Medical Congress in London, showed very fine giant cells. The experts there present considered it a case of tubercular disease. The girl is now alive and healthy.

MR. SWANZY said that within the last two years he had seen about four cases of tubercular iritis. The diagnosis depended upon the presence of small tumours of a cinnamon colour, varying in size from a pin's head to three or four pins' heads, and numbering in an eye from two to ten. Stippling of the back of the cornea and iritis were also present. He had removed one of these growths, and had submitted it to a pathologist for examination, who stated that on microscopic examination it resembled rather a sarcomatous than a tubercular growth. Later on he had the opportunity of showing it to Professor Leber of Heidelberg, who said that, although he could not be positive, he thought it was a tubercular growth. This gentleman had stated that it was extremely difficult to meet with the tubercle bacilli in such cases, but that if an inoculation was made into a rabbit's eye the animal died of tuberculosis. It was an interesting question whether the lesion was primary or secondary. In all his cases he could find no evidence of tubercular disease elsewhere. All the cases he had seen made a fairly good recovery,



and Professor Leber had devised the term of "attenuated tuberculosis" for these cases, meaning thereby that they were capable of recovery. Might not something similar occur in other parts of the body also?

DR. SCOTT remarked on the considerable difficulty of finding tubercle bacilli in the human tissues, whereas it was quite easy to demonstrate them in those of animals. He said it was no uncommon thing to find at a *post-mortem* examination evidence of healed-up tubercular lesions of the lung.

MR. BENSON briefly replied.

*Melanotic Tumour of Eye ; Death from Secondary Growths.*

MR. STORY and MR. GRAVES communicated the case of a man, aged fifty-four, from whose sclerotic a melanotic tumour, about the size of a broad bean, was removed in February, 1890. In autumn of the same year a second growth, of the size of a small pin's head, was removed from the conjunctiva of same eye, and nothing went wrong till the spring of 1893, when the præauricular gland began to enlarge. It was removed by Mr. Franks, but new growths developed in the jaw and abdomen, and the patient died in the spring of 1894.

The two eyeball tumours were typical specimens of the alveolar sarcoma, exactly resembling Ziegler's illustration in the chapter on sarcomata of peculiar type, showing agglomerated groups of epithelial-like cells, separated by well-marked fibrous septa, the pigment cells lying chiefly in the septa. The gland tumour, in addition, exhibited specimens of other types—round-celled, spindle-celled, pigmented and non-pigmented sarcomata.

*Spontaneous Fractures of the Clavicle.*

DR. E. H. BENNETT presented specimens of spontaneous fractures of the clavicle. He briefly discussed the question of spontaneous fractures in general. He presented specimens of spontaneous fractures in clavicles due to syphilis, malignant disease, rickets in the infant, in the adult, and in the aged, and he directed attention to the importance of the study of these injuries and the mechanism of their production, attributing the fractures of infantile and adult rickets and of syphilis to muscular action, those occurring in the aged to action of the weight of the upper extremity.

The Section then adjourned.

## SECTION OF SURGERY.

President—THORNLEY STOKER, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—KENDAL FRANKS, F.R.C.S.I.

*Friday, November 9, 1894.*

The PRESIDENT in the Chair.

The PRESIDENT gave an Address on "Some Thoughts on the Method of Relieving an Obstructed Bowel."

*Operations for Cancer of the Jaws and Tongue.*

SIR WILLIAM STOKES commenced by giving briefly the details of a series of cases of cancer of the upper jaw, the lower jaw, tongue, and floor of the mouth. Some of the cases had been under his care in the Richmond Surgical Hospital and the remainder in the Meath. Many points in connection with the technique of excision of maxillary tumours invading the bones were discussed, as well as the various proposals that have been made and adopted in the removal of the tongue, either partially or in its entirety. The question of the therapeutic value of these operations was fully discussed, and early operation in such cases strongly advocated; but the view that even in cases where the disease is fully developed relief of suffering and prolongation of life may be anticipated was distinctly held. A series of drawings and photographs, some illustrative of many of the points raised in the communication, and others showing results that have been obtained by operative interference were exhibited.

The PRESIDENT congratulated the Section on the paper which had just been read, and in commenting upon it expressed his strong belief in the relationship between cancer of the tongue and syphilis. The number of cases of doubtful disease proved to be cancer, and the number of undoubted cases of syphilis which eventuated in cancer must have struck every surgeon of experience. He had a very unfavourable opinion of operations on the tongue, but thought that, if touched at all, the whole of it should be removed. He considered that every plastic operation in such cases not absolutely necessary was to be deprecated.

MR. BENNETT, in referring to the question of heredity of malignant disease, said that at the meeting of the British Medical Association at Cardiff the representatives from Australia had directed the attention of members to the fact that the Insurance Societies peculiar to Australia had instructed their medical examiners to exclude the question of heredity.

MR. CROLY said he had not been able to trace heredity as often as one might have expected. In illustration of the unfavourableness of operating on the tongue he mentioned two cases, one of which was a young man,

apparently a very favourable case, with cancer on the side of the tongue. He excised half the tongue, but in another year secondary growth occurred in the glands. Referring to the *écraseur* he said that he had given it up on account of its slowness, and also because considerable bleeding took place during the operation. With regard to ligation of the lingual arteries, he asked why had preliminary tracheotomy been performed if it was not for the prevention of suffocation from blood. In partial excision it was urged that if only one lingual was tied hæmorrhage would come from the other, but he had not found it so. One advantage of ligaturing the lingual artery was that the same incision served also to examine the whole digastric space and clear out all the glands there. Owing to the tenseness of the cervical fascia it is very difficult, as also in the axilla, to determine before the operation whether the glands were enlarged or not. He considered it better surgery to remove the whole than part of the tongue, especially as complete removal did not prevent articulation. When the disease returns it nearly always returns in the glands of the neck.

MR. WHEELER was not in favour of removing the whole tongue when only a small part was involved. In operating he advised the use of the thermo-cautery scissors; but they should not be heated too much, so as to allow the arteries to spout, as they can then be clipped. He also concurred in the belief that syphilis was a very potent factor in producing cancer of the tongue. After removal of the entire tongue he found his patients could articulate well.

MR. THOMSON entirely agreed with Mr. Croly with regard to the amount of the tongue that ought to be removed; for after an epithelial ulcer has been in existence a short time the glands were already infected; but it took some time for them to enlarge sufficiently to be detected. Even from a very small ulcer infection would follow, so that he believed that partial removal was not good surgery. The return of cancer of the tongue was so frequent that he thought that many cases of non-return were mistakes in diagnosis. He agreed with Mr. Croly that tracheotomy was unnecessary. He had never seen septic trouble set up in the lungs after operation.

MR. MYLES insisted on the necessity of removing any enlarged glands. He considered that a ligature passed round the root of the tongue was of no use in checking hæmorrhage from the lingual arteries, owing to the fact that they are present only in the anterior part of the tongue. He denounced the *écraseur*, because, he said, when being used it had a tendency to travel in the direction of least resistance, and so to encroach upon the easily broken-down cancerous mass. In removal of the upper jaw he considered that preliminary tracheotomy greatly facilitated the administration of the anæsthetic; and that, if the tube was removed immediately after the operation, no bad results followed, and the wound healed by first intention.

MR. TOBIN emphasised the importance of opening the digastric triangle and removing any infected glands. When preliminary tracheotomy was performed it was better to remove the tube at once, and so lessen the tendency to septic pneumonia.

MR. FRANKS, in referring to complete or partial removal of the tongue, thought that each case must be decided on its merits; as, for instance, if a patient has got a small ulcer on the side of the tongue, well away from the middle line, it would be a mistake to remove the whole tongue. He himself had had two successful cases of partial removal. The tendency of the disease was to follow the lymphatic channels to the glands, not to cross the middle line. He thought that, even if the operation was not successful, owing to the return of the disease in the glands of the neck, the relief the patient experienced justified the operation. Galvano-cautery possesses the great advantage of speed of operation as compared with the *écraseur*. He followed Mr. Whitehead's method of operating in excision of the tongue, and was never troubled with secondary hæmorrhage. In operations about the mouth generally he considered Rose's position, with the head lowered, the ideal one.

SIR WILLIAM STOKES, in replying, said that he had seen many cases in this country and in Germany of excision of the jaw in which a preliminary tracheotomy had not been performed. He agreed with the President that cosmetoplastic operations ought to be entirely secondary to thorough removal of the disease. He thought an imperfect operation was sometimes permissible to relieve the patient of a fœtid ulceration in his mouth, although complete removal of the disease could not be hoped for. He had a personal dislike to the thermo-cautery, as secondary hæmorrhage had occurred in the two cases in which he had used it.

The Section then adjourned.

## SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

*Friday, November 16, 1894.*

The PRESIDENT in the Chair.

*Patients exhibited by—*

DR. H. C. TWEEDY—A Case of Argyria.

DR. JOSEPH REDMOND and MR. P. J. HAYES—Patient aged eighteen. Pericardium tapped twice within ten days, then treated by insertion of small-sized drainage-tube.

*On some Therapeutical Traditions.*

The PRESIDENT read a short paper on this subject. [It will be found at page 1.]

DR. S. M. THOMPSON said he thought that the cured meat in which the poorer classes indulged was injurious on account of the considerable amount of nitrate of potassium in it. He found the question of dietary a very difficult one in the treatment of some patients affected with eczema.

DR. BEWLEY recalled a lecture delivered by Sir William Roberts at the opening of a medical society in Manchester some years ago. He had said that a great many doctors agreed in the drugs they prescribed for particular diseases, but when it came to diet nothing was more remarkable than the definiteness and diversity of their directions. A few diseases, such as diabetes and enteric fever, necessitated a particular dietary, but in the great majority of cases it was his practice to ask his patients: "Does such an article of food agree with you?" "Do you like it?" If it did we allowed them to have it in moderation. With these remarks Dr. Bewley concurred. He said there was a great difficulty in avoiding telling a patient to take what you yourself liked and not to take those things which you found to personally disagree with you.

DR. H. G. CROLY said that all his life he had suffered from gout in the form of psoriasis and dyspepsia. With regard to his gouty skin affection he had, thirty years ago, consulted the late Sir Dominic Corrigan and the late Dr. Stokes. They both advised him to let it alone. With regard to stone he drew attention to the remarkable fact that no one had yet been able to explain why the disease was so much more frequently met with in some districts than in others.

DR. PARSONS said that he thought the very common administration of iodide of potassium in lead-poisoning might be comparable to that of carbonate of lithia in gout. Iodide of potassium caused the appearance of lead in the urine, especially if given in large doses. Yet it was hard to understand this, remembering Berthollet's law that two substances which react on each other tend to the production of a more insoluble compound. Perhaps the "mass" theory to which the President had alluded might explain it. Could the President throw any light as to where the keratin-coated pills and capsules were dissolved, as they were not passed per anum?

DRS. ARTHUR BENSON and C. F. MOORE also joined in the discussion.

The PRESIDENT, in reply, said that he agreed with Dr. Thompson as to the injurious effect of nitrate of potassium. As regards diet he thought a healthy man might be defined as one who had a wide margin in the number of things he might eat and drink without their disagreeing with him, while a gouty man was one who had a very narrow margin. As regards the efficiency of the iodides in eliminating the heavy metals from

the system, he thought that Dr. Parsons' difficulty could be met by the fact that whereas iodide of lead was insoluble in cold water it was soluble in an excess of iodide of potassium or chloride of sodium. This might perhaps take place in the warm fluids of the body readily. With respect to the keratin-coated pills, he had not denied the fact that they were soluble, but had objected to the theory that they needed an alkaline fluid. The warm juices of the body were quite sufficient.

*A Case of Small-pox and its Lessons.*

DR. J. W. MOORE read the notes of a case, which will be found in Vol. XCVIII., p. 489.

THE PRESIDENT asked the author did he purpose to attribute more than a subordinate part to the exclusion of light in the treatment of the disease. Some vaccination scars were well marked, though protected from light.

DR. A. N. MONTGOMERY asked Dr. Moore had his patient originally been vaccinated, and if so, what was the "number and quality" of the cicatrices? Had he been revaccinated, and if so, when? In those patients in whom the disease slurred over the pustular stage, had revaccination been performed?

DR. POTTER mentioned an outbreak which had occurred some years ago on a vessel in Cork. Some cases were treated on the main deck, and others on the lower deck, which was comparatively dark. The men on the lower deck did much better. Tincture of iodine had formerly been recommended to be applied to prevent scarring. He had applied it to a patient's face with the very best results.

DR. C. F. MOORE having also joined in the discussion,

DR. J. W. MOORE said his patient had never been revaccinated. There were two good scars on the left arm. Revaccination was very prevalent in Sweden, and it was highly probable the cases he referred to as having been treated in red light had been revaccinated. He thought that the tincture of iodine might keep out some of the actinic rays of the solar spectrum. In reply to the President, he stated that the special treatment in red light had for its object the lessening of the dermatitis, which was such a dangerous element in small-pox.

The Section then adjourned.

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ANÆSTHETICS.

FROM statistics gathered by *Les Nouveaux Remèdes* we find that of 52,475 administrations chloroform was used 33,083 times; ether, 11,669; A. C. E. mixture, 3,896; Billroth's mixture, 750; bromide of ethyl, 2,986; nitrous oxide (dentistry), 91. Thus we see that chloroform was more frequently used than all the others put together.

## SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;  
F. R. Met. Soc.; Diplomat in State Medicine and ex-Sch. Trin. Coll. Dubl.

### VITAL STATISTICS

*For four Weeks ending Saturday, December 1, 1894.*

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

| TOWNS     | Weeks ending |             |             |            | TOWNS       | Weeks ending |             |             |            |
|-----------|--------------|-------------|-------------|------------|-------------|--------------|-------------|-------------|------------|
|           | Nov.<br>10.  | Nov.<br>17. | Nov.<br>24. | Dec.<br>1. |             | Nov.<br>10.  | Nov.<br>17. | Nov.<br>24. | Dec.<br>1. |
| Armagh -  | 7·0          | 21·0        | 35·1        | 14·0       | Limerick -  | 25·3         | 29·5        | 25·3        | 22·5       |
| Belfast - | 23·0         | 23·4        | 20·7        | 22·7       | Lisburn -   | 21·3         | 4·3         | 12·8        | 21·3       |
| Cork -    | 26·3         | 21·5        | 24·9        | 22·8       | Londonderry | 12·6         | 29·8        | 22·0        | 20·4       |
| Drogheda  | 4·4          | 17·6        | 8·8         | 8·8        | Lurgan -    | 4·6          | 27·4        | 18·2        | 36·5       |
| Dublin -  | 21·9         | 22·7        | 23·6        | 20·0       | Newry -     | 12·1         | 12·1        | 32·2        | 20·1       |
| Dundalk - | 8·4          | 12·6        | 20·9        | 12·6       | Sligo -     | 40·6         | 35·5        | 35·5        | 20·3       |
| Galway -  | 15·1         | 60·5        | 26·4        | 11·3       | Waterford - | 22·5         | 17·5        | 37·5        | 22·5       |
| Kilkenny  | 0·0          | 14·2        | 28·3        | 18·9       | Wexford -   | 22·6         | 13·5        | 13·5        | 27·1       |

In the week ending Saturday, November 10, 1894, the mortality in thirty-three large English towns, including London (in which the rate was 15·0), was equal to an average annual death-rate of 16·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·3 per 1,000. In Glasgow the rate was 21·8, and in Edinburgh it was 19·6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in twelve of the districts to 2·9 in Belfast—the 119 deaths from all causes registered in that district comprising 2 from scarlatina, 1 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 6 from diarrhœa. The 18 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 221—120 boys and 101 girls; and the registered deaths to 153—78 males and 75 females.

The deaths, which are 24 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·8 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 21·9 per 1,000. During the first forty-five weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884—1893.

Only 12 deaths from zymotic diseases were registered, being 14 below the average for the corresponding week of the last ten years, and 6 under the number for the previous week. They consist of 4 from small-pox, 1 from scarlet fever (scarlatina), 3 from whooping-cough, 2 from enteric fever, 1 from simple cholera, and 1 from diarrhœa.

The deaths from small-pox are those of 2 women, and of a girl aged 9 years, all of whom had "bad marks," and of a man aged 34 years who had not been vaccinated.

Thirty-seven cases of small-pox were admitted to hospital, being 9 over the admissions for the preceding week, and 22 over the number for the week ended October 27. Thirty-five small-pox patients were discharged, 4 died, and 81 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 20, being 1 over the admissions for the preceding week; 14 patients were discharged, and 82 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 3.

The hospital admissions included, also, 12 cases of scarlatina, against 15 for each of the two weeks preceding: 5 patients were discharged; 2 died, and 71 remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

Twenty-five deaths from diseases of the respiratory system were registered, being 4 under the number for the preceding week, and 12 below the average for the 45th week of the last ten years. The 25 deaths comprise 14 from bronchitis and 9 from pneumonia or inflammation of the lungs.

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In the week ending Saturday, November 17, the mortality in thirty-three large English towns, including London (in which the rate was 15·3), was equal to an average annual death-rate of 17·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·3 per 1,000. In Glasgow the rate was 22·6, and in Edinburgh it was 19·4.



The average annual death-rate in the sixteen principal town districts of Ireland was 23·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in nine of the districts to 15·1 in Galway—the 16 deaths from all causes registered in that district comprising 4 from measles. Among the 121 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 1 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 1 from diarrhœa. The 31 deaths in Cork comprise 1 from measles, 2 from diphtheria, 1 from simple continued fever, and 4 from diarrhœa. The 21 deaths in Limerick comprise 1 from typhus and 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 197—105 boys and 92 girls; and the registered deaths to 156—82 males and 74 females.

The deaths, which are 31 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first forty-six weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884–1893.

Thirteen deaths from zymotic diseases were registered, being 1 over the low number for the preceding week, but 9 below the average for the corresponding week of the last ten years. They comprise 3 from small-pox, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued and ill-defined fever, 2 from enteric fever, and 2 from diarrhœa.

The deaths from small-pox are those of a man who had “two fair marks,” of a woman who had not been vaccinated, and of a man aged 46 years in whose case there is no statement as to vaccination.

Twenty-five cases of small-pox were admitted to hospital, being 12 under the admissions in the preceding week, and 3 under the number in the week ended November 3. Ten small-pox patients were discharged; 2 died, and 94 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

Only 12 cases of enteric fever were admitted to hospital, being 8 under the admissions in the preceding week, and 7 under the number in the week ended November 3. Eight patients were discharged; 2 died, and 84 remained under treatment on Saturday, being 2 over the number in hospital on the previous Saturday.

The hospital admissions included, also, 20 cases of scarlatina, against 12 in the preceding week: 8 patients were discharged, and 83 remained under treatment on Saturday, being 12 over the number in hospital on Saturday, November 10.

Twenty-five deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, but 15 below the average for the 46th week of the last ten years. The 25 deaths comprise 7 from bronchitis, 11 from pneumonia or inflammation of the lungs, and 2 from croup.

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In the week ending Saturday, November 24, the mortality in thirty-three large English towns, including London (in which the rate was 15·9), was equal to an average annual death-rate of 17·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·3 per 1,000. In Glasgow the rate was 21·2, and in Edinburgh it was 23·3.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in seven of the districts to 21·0 in Armagh—the 5 deaths from all causes registered in that district comprising 2 from whooping-cough, and 1 from diarrhœa. Among the 107 deaths from all causes registered in Belfast are 1 from scarlatina, 4 from diphtheria, 1 from enteric fever, and 6 from diarrhœa. The 18 deaths in Limerick comprise 1 from scarlatina and 1 from diarrhœa. Among the 14 deaths in Londonderry are 1 from diphtheria and 1 from diarrhœa. The 15 deaths in Waterford comprise 1 from typhus and 4 from diarrhœa. The Registrar for Castlereagh No. 4 District, Belfast Union, remarks—"During the week I gave orders for the removal of a case of small-pox from this district to the Union Hospital."

In the Dublin Registration District the registered births amounted to 170—93 boys and 77 girls; and the registered deaths to 163—90 males and 73 females.

The deaths, which are 20 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·3 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 23·6 per 1,000. During the first forty-seven weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884–1893.

Seventeen deaths from zymotic diseases were registered, being 4 over the low number for the preceding week, but 6 under the average for the corresponding week of the last ten years. They comprise 1 from small-pox, 1 from scarlet-fever (scarlatina), 1 from influenza, 3 from whooping-cough, 5 from enteric fever, and 4 from diarrhœa.

The death from small-pox was that of a man aged 34 years who had not been vaccinated.

Only 18 cases of small-pox were admitted to hospital during the week, being 7 under the admissions for the preceding week, and 19 under the number for the week ended November 10. Eighteen small-pox patients were discharged during the week, 3 died, and 91 remained under treatment on Saturday, being 3 below the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 14, being 2 over the admissions for the preceding week, but 6 under the number for the week ended November 10. Eleven enteric fever patients were discharged, 3 died, and 84 remained under treatment on Saturday, being equal to the number in hospital on the previous Saturday.

The hospital admissions for the week included, also, 24 cases of scarlatina, against 20 and 12 for each of the two weeks preceding: 18 patients were discharged, and 89 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 17.

Twenty-five deaths from diseases of the respiratory system were registered, being equal to the number for each of the two weeks preceding, but 15 below the average for the 47th week of the last ten years. The 25 deaths comprise 9 from bronchitis, 12 from pneumonia or inflammation of the lungs, and 2 from croup.

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In the week ending Saturday, December 1, the mortality in thirty-three large English towns, including London (in which the rate was 16·4), was equal to an average annual death-rate of 17·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·4 per 1,000. In Glasgow the rate was 23·7, and in Edinburgh it was 18·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·8 per 1,000, the rates varying from 0·0 in seven of the districts to 18·2 in Lurgan—the 8 deaths from all causes registered in that district comprising 1 from measles, 2 from scarlatina, and 1 from whooping-cough. Among the 117 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from simple-continued fever, 2 from enteric fever, and 1 from diarrhoea. The 16 deaths in Limerick comprise 3 from scarlatina, and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 213—108 boys and 105 girls; and the registered deaths to 142—68 males and 74 females.

The deaths, which are 49 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·2 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the

district, the rate was 20·0 per 1,000. During the first forty-eight weeks of the current year the death-rate averaged 24·7, and was 2·5 under the mean rate in the corresponding period of the ten years 1884–1893.

Only 11 deaths from zymotic diseases were registered, being 6 under the number in the preceding week and 12 below the average in the corresponding week of the last ten years. The 11 deaths consist of 3 from small-pox, 1 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 2 from enteric fever, 2 from diarrhœa, and 1 from dysentery.

The deaths from small-pox are those of a female aged 17 years who had been vaccinated, and of a boy aged 13 and a female aged 19 years who had not been vaccinated.

Thirty-seven cases of small-pox were admitted to hospital, being 19 over the admissions in the preceding week, and 12 over the number admitted in the week ended November 17: 25 small-pox patients were discharged, 2 died, and 101 remained under treatment on Saturday, being 10 over the number in hospital at the close of the preceding week.

The present epidemic of small-pox in Dublin, though slight as compared with the great epidemics of 1871–73 and 1878–80, has naturally caused considerable alarm since its first appearance in July last. The deaths from this disease within the Dublin Registration District have, for each week from the 21st of July to the 1st of December, been respectively 1, 0, 1, 1, 3, 6, 0, 1, 2, 0, 2, 4, 2, 2, 4, 1, 4, 3, 1, and 3, making a total of 41 deaths, all except one of which occurred in hospital. The admissions to hospital during the same period have been 0, 4, 9, 26, 37, 14, 16, 16, 12, 13, 19, 8, 8, 28, 15, 28, 37, 24, 18, and 37 weekly.

The number of cases of enteric fever admitted to hospital during the week was 14, being equal to the admissions for the preceding week: 17 enteric fever patients were discharged, 1 died, and 80 remained under treatment on Saturday, being 4 under the number in hospital on the previous Saturday.

The hospital admissions for the week included, also, 12 cases of scarlatina, against 24 and 20 respectively for each of the two weeks preceding: 5 patients were discharged, 1 died, and 95 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 24.

Twenty-eight deaths from diseases of the respiratory system were registered, being 3 over the number for the preceding week, but 19 under the average for the 48th week of the last ten years. The 28 deaths comprise 15 from bronchitis and 8 from pneumonia or inflammation of the lungs.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat 53° 20' N.,  
Long. 6° 15' W., for the Month of November, 1894.*

|                                                    |   |   |   |                         |
|----------------------------------------------------|---|---|---|-------------------------|
| Mean Height of Barometer,                          | - | - | - | 29·850 inches.          |
| Maximal Height of Barometer (on 30th, at 9 a.m.),  | - | - | - | 30·591 „                |
| Minimal Height of Barometer (on 14th, at 2 p.m.),  | - | - | - | 28·904 „                |
| Mean Dry-bulb Temperature,                         | - | - | - | 46·8°.                  |
| Mean Wet-bulb Temperature,                         | - | - | - | 44·6°.                  |
| Mean Dew-point Temperature,                        | - | - | - | 42·1°.                  |
| Mean Elastic Force (Tension) of Aqueous Vapour,    | - | - | - | ·270 inch.              |
| Mean Humidity,                                     | - | - | - | 84·3 per cent.          |
| Highest Temperature in Shade (on 1st),             | - | - | - | 61·6°.                  |
| Lowest Temperature in Shade (on 30th),             | - | - | - | 34·3°.                  |
| Lowest Temperature on Grass (Radiation) (on 30th), | - | - | - | 27·7°.                  |
| Mean Amount of Cloud,                              | - | - | - | 58·7 per cent.          |
| Rainfall (on 15 days),                             | - | - | - | 1·482 inches.           |
| Greatest Daily Rainfall (on 13th),                 | - | - | - | ·399 inch.              |
| General Directions of Wind,                        | - | - | - | W., S.W., and<br>S.S.W. |

*Remarks.*

November, 1894, proved an open, generally favourable month in the neighbourhood of Dublin. The first half was unsettled, squally, and showery, with a cyclonic type of weather predominant. The second half was mild, quiet, often cloudy and foggy—in a word, the anticyclonic type of weather ruled. The rainstorms of the 10th to the 17th were practically unfelt on the east coast of Ireland. Only once in the last thirty years has November been milder than in the present year—that was in 1881, when the mean temperature was as high as 50·3°, or 5·6° above the average, and 2·5° above that of the month now under review.

In Dublin the arithmetical mean temperature (47·8°) was decidedly above the average (44·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·8°. In the twenty-nine years ending with 1893, November was coldest in 1878 (M. T. = 38·2°), and in 1870 (M. T. = 42·2°); warmest in 1881 (M. T. = 50·3°). In 1886, the M. T. was as high as 46·4°; in the year 1879 (the “cold year”) it was 43·9°; in 1887, it was as low as 42·6°; in 1888, it was as high as 47·5°; in 1889, it was 46·4°; in 1890, 45·3°; in 1891, 43·4°; in 1892, as high as 46·9°; and in 1893, 43·8°.

The mean height of the barometer was 29·850 inches, or 0·010 inch below the corrected average value for November—namely, 29·860 inches. The mercury rose to 30·591 inches at 9 a.m. of the 30th, having fallen to 28·904 inches at 2 p.m. of the 14th. The observed range of atmo-

spheric pressure was, therefore, 1·687 inches—that is, slightly less than one inch and seven-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46·8°, or 2·4° below the value for October, and 6·1° below that for September, 1894. The arithmetical mean of the maximal and minimal readings was 47·8°, compared with a twenty-five years' average of 44·7°. On the 1st the thermometer in the screen rose to 61·6°—wind, S.S.W.; on the 30th the temperature fell to 34·3°—wind, W.N.W. The minimum on the grass was 27·7°, also on the 30th.

The rainfall was 1·482 inches, distributed over 15 days—the rainfall was considerably below, while the rainy days were also below, the average. The average rainfall for November in the twenty-five years, 1865–89 inclusive, was 2·452 inches, and the average number of rainy days was 17·0. In 1876 the rainfall in November was large—3·614 inches on 20 days. In 1872, also, 3·414 inches fell on 24 days; in 1887, 3·012 inches fell on 18 days; in 1888, 6·549 inches fell on 26 days; in 1890, 4·212 inches fell on no less than 27 days; in 1891, 2·911 inches fell on 15 days; in 1892, 2·404 inches on 19 days. On the other hand, the rainfall in 1889 was only ·929 inch on 9 days; in 1870, only 1·218 inches were measured on but 11 days; in 1879 only 1·251 inches on but 10 days; and in 1893, 1·870 inches on 17 days.

High winds were noted on 15 days, but attained the force of a gale on only two occasions—the 5th and 13th. The atmosphere was more or less foggy in Dublin on the 18th, 23rd, 24th, 26th, 27th and 30th.

A solar halo was seen on the 4th; lunar halos were seen on the 5th and 11th. Lightning occurred on the night of the 15th, and an aurora borealis on the 23rd. Neither snow nor hail fell.

Atmospheric pressure remained in a shifting, unstable condition throughout the first three days of the month, and copious rains, strong squally southerly winds, and high but unsteady temperatures made up the weather of the period. On Thursday, the 1st, the thermometer rose to 65° in the shade in London, being the highest reading there recorded in November since 1847, when 67° was reached. In Dublin the maximum on the 1st was 61·6°; that on the 2nd was 60·7°. On Saturday, the 3rd, a storm-centre passed swiftly northwards outside the west coast of Ireland.

The week ended Saturday, the 10th, witnessed a continuance of cyclonic conditions over North-western Europe, resulting in unsettled weather, with squally southerly to westerly winds, frequent rains or passing showers, high but unstable temperature, and fine, bright, dry intervals. Until Thursday the barometer stood high over France and Germany—30·10 to 30·20 inches—so that gradients were sometimes steep over the British Isles. On the day named a V.-shaped depression existed over the North Sea, and accordingly the wind drew into N.W.

over great Britain, while it freshened from S. or S.E. in Norway, Sweden, and Denmark. During the last two days atmospheric pressure became generally low, and was unevenly distributed. In the vicinity of Dublin, alternate cloudy and bright spells occurred, but the weather was not unfavourable save as to its variableness. On Wednesday rain fell heavily over the south of England and in Wales in connection with the V.-shaped depression already mentioned. In Dublin a solar halo was seen at 9 a.m. of Sunday, a lunar halo at 9 p.m. of Monday, and a lunar corona at 9 p.m. of Saturday. Owing to clouds, the Transit of Mercury was not seen from Dublin on the afternoon of Saturday. The mean height of the barometer was 29·647 inches, pressure ranging between 30·038 inches at 9 a.m. of Tuesday (wind S.W.) and 29·315 inches at 9 p.m. of Saturday (wind S.W.). The corrected mean temperature was 49·6°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 48·1°. On Tuesday the screened thermometers rose to 57·7°, on Thursday they fell to 41·1°. The rainfall was ·419 inch on six days, ·211 inch being measured on Thursday. The prevailing wind was S.W. Electrical disturbances occurred on Friday night and Saturday in several places.

Very disturbed conditions existed over North-western Europe throughout the week ended Saturday, the 17th, which will be especially memorable for a torrential rainfall in the S.W., S., and S.E. of England, and resulting in destructive floods in those districts. In Scotland, the N.E. of England, and the N. and E. of Ireland, the rainfall was moderate, and intervals of very fine, bright weather were enjoyed. On Sunday rather steep radiants for W. and S.W. winds existed. In the evening a lunar halo and corona of unusual beauty appeared. On Monday morning two atmospheric depressions were found with minima below 29 inches—of these, one was over Caithness, the other was near the Scilly Islands. Round the latter vortex the winds were strong to a gale, and torrents of rain were falling—at 8 a.m. the measurement at St. Mary's, Scilly, was 3·06 inches, and at Hurst Castle 2·02 inches. This system subsequently travelled up the English Channel and then across the North Sea to Denmark. Its passage was attended by violent gales, storms of rain, hail, thunder and lightning. The barometer fell to 28·75 inches at Hurst Castle. On Tuesday another even more extensive depression bore in upon the British Islands, causing a renewal of the rainstorm and gales. Its centre was near the Shetlands at 8 a.m. of Wednesday—the barometer reading at Sumburgh Head being only 28·59 inches. Again, the rainfall was immense over the southern half of England. In Ireland—except in the S. and S.W.—the weather now became very bright and cool, and so remained until Saturday, which was a cloudy, warm, squally day. In Dublin the mean atmospheric pressure was 29·365 inches, the barometer ranging from 28·904 inches at 2 p.m. of Wednesday (wind S.W.) to 29·881 inches at 9 p.m. of Saturday (wind S.) The mean temperature

was 45·9°. On Tuesday the screened thermometers fell to 35·7°, on Saturday they rose to 56·9°. The rainfall was ·469 inch, ·399 inch falling on Tuesday. The prevailing winds were S.W. and S. The largest amounts of rain recorded at any individual stations during the week were 6·25 inches at Godmanstone (near Dorchester), 5·51 inches at Scilly, 5·13 inches at Killarney, 4·70 inches at Falmouth, and 4·60 inches (in six days) at Crowborough, Sussex.

“After a storm comes a calm”—this would be a pithy way of comparing the weather of the week ended Saturday, the 24th, with that of its predecessor. The gales and rain ceased, and a growing tendency to anticyclonic conditions showed itself as the period advanced. On Sunday a V-shaped depression lay over Ireland, where rainy but finally quiet weather prevailed. At night the sky was clear, and temperature fell fast, but only for a short time, for on Monday it again became extremely mild. This change was succeeded by a considerable rainfall, amounting to six-tenths of an inch or upwards in the extreme S.W. and N.W. of the country. Bright aurora was reported on Sunday night from Wick in Scotland, and Roche’s Point in Cork. The display was again seen on Monday night at Wick; and on Friday night also a brilliant aurora was seen in Ireland, Scotland, and Sweden. On and after Wednesday an anticyclonic band stretched westwards from Central Europe to the southern parts of the British Islands. The wind fell light in consequence, having blown a fresh gale from S.W. in Ireland and the Irish Sea on Wednesday night. The atmosphere also became hazy and thick and fogs formed in many places. On Friday morning the distribution of temperature was most irregular—at 8 a.m. the thermometer read 51° at Holyhead, Pembroke, and Scilly; only 36° at Valentia Island, 34° at Donaghadee, and 33° at Parsonstown. Saturday was a fine day with an easterly breeze. In Dublin the mean height of the barometer was 30·174 inches, pressure ranging from 29·917 inches at 9 a.m. of Sunday (wind S.S.E.) to 30·387 inches at 9 p.m. of Friday (wind W.). The mean temperature was 47·4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was also 47·4°. On Thursday the screened thermometers rose to 56·8°, having fallen to 38·2° during Monday night. The rainfall was ·300 inch on four days, ·150 inch being measured on Sunday. The prevailing winds were S.S.E., S.S.W., and W.

The tendency to anticyclonic conditions observed in Western Europe during the previous week persisted throughout the period from the 25th to the 30th, inclusive, and except in the far North quiet, fine weather prevailed. Temperature was often above the average for the time of year, but local frosts were felt in different parts of the inland districts of our islands, while more decided and extensively distributed frosts occurred in France and Germany. Until Tuesday, the 27th,



the area of highest pressure was found over the south of Scandinavia and of the Baltic, in which regions the barometer stood at between 30·70 and 30·80 inches. On the morning of the day named a separate centre of high pressure formed over Ireland, accompanied by a sharp frost inland—the thermometer receding to  $25^{\circ}$  at Parsonstown, King's Co. At this time the barometer was falling in the extreme N.W. and N., as a large depression approached Norway from the westward. This disturbance caused a general rise of temperature in the British Islands on Wednesday afternoon, the atmosphere became soft and damp, and the wind freshened with light showers at many stations. As this low pressure area travelled eastwards, the barometer rose again, the wind fell light and drew into northerly points, and temperature gave way quickly. Fog and frost set in on Friday, but the amount of cloud checked radiation to a large extent and only local frosts under clear skies were recorded. In Dublin the extreme readings of the barometer were—highest, 30·591 inches at 9 a.m. of Friday (wind, W.N.W.); lowest, 30·297 inches at 9 a.m. of Sunday (wind, S.E.). On Sunday the screened thermometers rose to  $52\cdot3^{\circ}$ . On Friday they fell to  $34\cdot3^{\circ}$ . The prevailing wind was westerly. There was no measurable rainfall.

The rainfall in Dublin during the eleven months ending November 30th, amounted to 27·750 inches on 191 days, compared with 15·378 inches on 141 days during the same period in 1887, 25·768 inches on 173 days in 1888, 25·718 inches on 178 days in 1889, 25·706 inches on 189 days in 1890, 24·521 inches on 163 days in 1891, 24·849 inches on 186 days in 1892, only 18·011 inches on but 155 days in 1893, and a twenty-five years' average of 25·292 inches on 177·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in November, 1894, was 3·495 inches distributed over 14 days. Of this quantity ·725 of an inch fell on the 13th, and ·795 of an inch on the 17th. From January 1st, 1894, up to November 30th, rain fell at that station on 168 days, and to the total amount of 35·716 inches. The corresponding figures for 1893 were 19·586 inches on 150 days.

At Cloneevin, Killiney, Co. Dublin, 1·58 inches of rain fell on 13 days, compared with a nine years' average of 2·861 inches on 18·11 days. The maximal fall in 24 hours was ·26 inch on the 13th. Since January 1st, 1894, 30·96 inches of rain have fallen at this station.

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#### ARGENTAMIN.

SCHERING (*Ap. Ztg.*) has succeeded in producing a salt of silver which will not precipitate albumen from solution, and which is of great therapeutic value for the treatment of hæmorrhages. The salt known as argentamin is obtained by adding 10 parts of the phosphate of silver to a 10 per cent. solution of ethylène-diamin.—*Les Nouveaux Remèdes*, No. 11.

## PERISCOPE.

### THIOFORM.

THIOFORM is a salt of bismuth and acid dithiosalicylic, and contains, as a consequence, bismuth, sulphur, and salicylic acid. It is a powder of a dull yellow colour, very light, odourless, tasteless, insoluble in water, alcohol, and ether. The antiseptic action is due, without doubt, to a concentrated solution of dithion which forms in the secretion of the wound immediately after its being sprayed with thioform. According to Hueppe a twenty per cent. solution of dithion kills the spores of charbon bacteria in forty-five minutes. The action of the antiseptic when used as a surgical dressing is to dry the wound quickly, which action increases its antigermicide value, and makes it serviceable for burns, which rapidly and certainly heal under its use. The same excellent results in the treatment of ulcers of the ankle were obtained from its use by J. J. Schmidt, particularly indolent ulcers; granulations took on a healthy action, and a new growth of skin spread rapidly from the circumference to the centre until the whole sore was healed. In chronic rectitis in a woman fifty years old thioform was given internally in 0.3 gramme doses, three times a day for fourteen consecutive days. After the third day the tympany diminished and the stools became regular. It has the inconvenience of causing eructation.—*Les Nouveaux Remèdes*, No. 11.

### CHLORIDE OF ZINC CAUSING DEATH.

M. JEANUEL assisted M. Lannelongue in the treatment of tuberculosis of joints by injections of chloride of zinc. A girl, six years old, had injected into her knee-joint twelve injections of a ten per cent. solution, the amount of each varying from two to eight drops. Two days after the child had swelling and œdema of her big toes, and pain in her feet. The following day she was worse, and finally the knee-joint burst, a clot of blood was thrown out, followed by profuse bleeding, and the child died. The autopsy showed a rupture of the femoral (popliteal) artery from an ulcer caused by chloride of zinc.—*Les Nouveaux Remèdes*, No. 11.

### SPHACELOTOXIN.

In 1884, after isolating cornutin, Dr. Kobert, of Dorpat-Youriew, found a substance remained in the ergot which had the power of causing contraction of the uterus and spasmodic contraction of the arterioles. He considered it to be an acid substance, and named it "acide sphacelinic." Later investigations have shown that the so-called acid is an admixture of several chemical bodies; from these Dr. Jacobi, of

Strassburg, has separated an alkaloid to which he gives the name "sphacelotoxin." This alkaloid is a powder of a yellow colour, insoluble in water, but soluble in ether, chloroform, alcohol, and alkaline solutions. Dr. Freund, of Strassburg, in his obstetric cases has found sphacelotoxin to produce similar effects to ergot. The doses he employed varied from 0.04 gramme to 0.10 gramme. The action commences in a few minutes, and attains its maximal intensity in half an hour. A solution in glycerine and alcohol is prepared for hypodermic use—it is very effective, and does not irritate the tissues.—*Semaine Médicale, Les Nouveaux Remèdes, No. 11.*

#### LACTOPHENIN.

LACTOPHENIN is phenacetin: in the group, acetyl is replaced by the group lactyl. It is a white fine crystalline powder, with an agreeable bitter taste, soluble in 330 parts of water. Dosage: 0.6 gramme, three times a day. The maximal dose is 1 gramme three times daily. It acts as an analgesic in neuralgia, and in full doses as a hypnotic. It gradually reduces temperature, which remains low for a long time. In typhus fever it calms the excitement, stops delirium, and produces sleep, and in typhoid is credited with cutting short the fever.—*Les Nouveaux Remèdes, No. 11.*

#### METHYL-BLUE AND EPITHELIOMA.

DR. DARIER, in a communication to the Academy of Medicine of Paris, reports the success of Dr. Mosetig, of Vienna, with the methyl-blue treatment of cancers, though M. Dentu has not with methyl-blue obtained cures. The author relates a series of cancerous tumours of the face cured rapidly by the daily application of a twenty per cent. solution of the drug. He considers the drug to have a specific action on cancer. A daily touching of the sore with the solution will effect a cure; but the good result will be more quickly produced by cauterising the carcinoma with chromic acid or the galvano-cautery. For deep-seated carcinoma he recommends the solution to be hypodermically injected. Tumours whose surface is broken should be covered by a healthy skin-flap on or about the fifteenth or twentieth day after treatment commenced. Dr. Darier presented to the Academy a patient who had had epithelioma of the left eye, and was then quite free of the disease, its site being marked by a cicatrix. This was the ninth case the doctor had thus treated, and with success in all.—*Les Nouveaux Remèdes, No. 11.*

#### METHYL-BLUE FOR CANCER.

AT a meeting of the Medical Society of Vienna M. von Mosetig-Moorhof presented a woman, fifty-two years old, who had been suffering from carcinoma of the gall-bladder. The abdomen was opened, as was also the fundus of the gall-bladder, where a soft carcinoma was found almost

filling the cavity, and extending into the bile duct. The mass was scraped away, and the viscus washed out, the bleeding being stayed by plugging with gauze. On the removal of the gauze the viscus was washed out with a twenty per cent. solution of methyl-blue, and a crayon of the same introduced into the bile duct. Under treatment the patient gained flesh, slept well, ceased to suffer pain, had a good appetite, and bile flowed more freely.—*Les Nouveaux Remèdes*, No. 11.

#### DIPHTHERIA.

M. MOIZARD reports the good effects produced by swabbing the tonsils in diphtheritic cases with a 20 per cent. or 30 per cent. solution in glycerine of corrosive sublimate. He has successfully, as has his colleagues, used the application in Trousseau's Hospital, Paris, in a large number of cases. Great care must be taken that none of the solution runs down the child's throat or is dropped in the mouth.—*Les Nouveaux Remèdes*, No. 16. [Swabbing a child's throat, we know from experience, is not at all times a simple or easy matter. We would suggest that cotton wool rolled on the point of a thin pen-handle be used, and not a camel-hair brush.]

#### PHENOCOLL.

*Riforma Medica* writes of phenocoll:—(1) It is a more powerful anti-malarial remedy than quinine. (2) It is useful in active and chronic rheumatism. (3) It is of signal service in children's diseases. (4) It is a good intestinal antiseptic. (5) Its antineuralgic property is the least of its many therapeutical values.

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**LACTOPHENIN** has been found *very efficient* in Erysipelas, Fever, Erysipelas with violent Delirium, Croupoury Phenmonia, Phthisis floridu (see Dr. A. Jaquist's paper "On the effect of *Lactophenin*," in the "Correspondenzblatt fuer Schweizer Aerzte." Basel).

**LACTOPHENIN** has been *remarkably successful* in Articular Rheumatism (see Frau Dr. v. Roth's paper, "Ueber die Wirksamkeit des *Lactophenins*," in the "Weiner Klinische Wochenschrift." No. 37. 1894.)

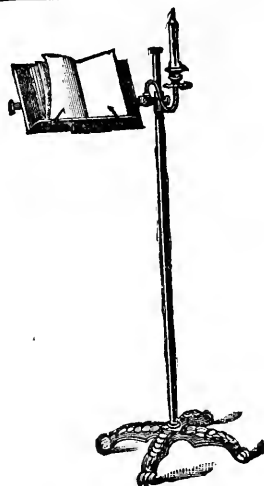
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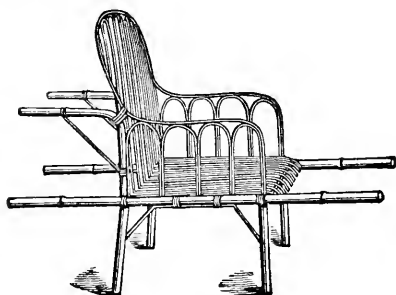
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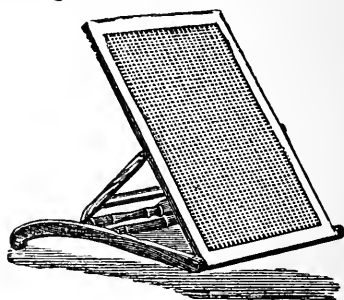
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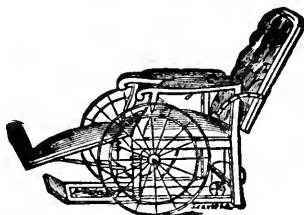
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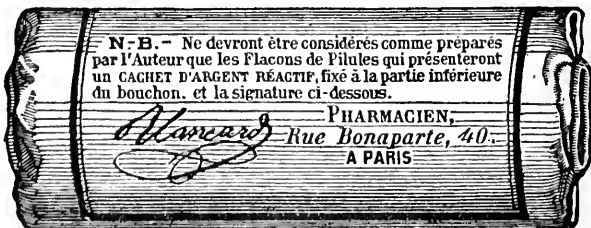
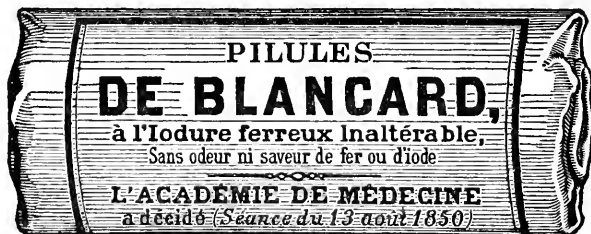
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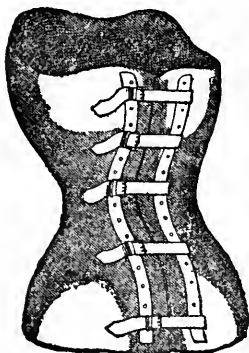
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Circumference at axilla.

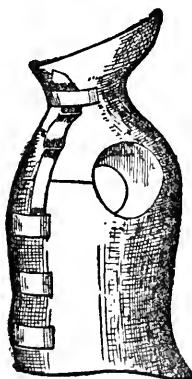
„ waist.

„ hips.

Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

In all cases it should be stated if for male or female.



### **CERVICAL JACKET.**

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



### **CLUB FOOT.**

Circumference below knee.

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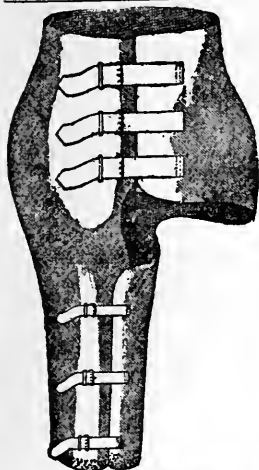
„ heel and instep.

Length from below knee to ground.

„ of foot.

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### HIP SPLINT.

Circumference at waist.

" hips.

" thigh, top of

" above knee.

Length from waist to groin.

State if for right or left side.



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Circumference at top of thigh.

" above knee.

" at knee.

" below knee.

" calf.

" ankle.

Length from groin to centre of knee.

" centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus, Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder Joint, Hand, &c.

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